Changes for the Better

MITSUBISHI ELECTRIC

SPLIT-TYPE, AIR CONDITIONERS
SPLIT-TYPE, HEAT PUMP AIR CONDITION

No. OB307

HFC utilized R410A

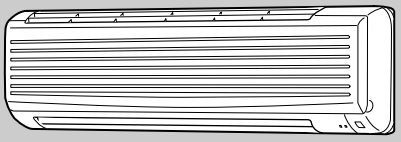
# SERVICE MANUAL

**Wireless type**
**Models**

| | |
|---|---|
| MSC-A07WV -E1 (WH) | · MU-A07WV -E1 |
| MSC-A09WV -E1 (WH) | · MU-A09WV -E1 |
| MSC-A12WV -E1 (WH) | · MU-A12WV -E1 |
| MSC-A07WV -E1 (WH) | · MUH-A07WV -E1 |
| MSC-A09WV -E1 (WH) | · MUH-A09WV -E1 |
| MSC-A12WV -E1 (WH) | · MUH-A12WV -E1 |

**Multi system type**
**Models**

| | |
|---|---|
| MSC-A07WV -E1 (WH) | · MUX-A10WV -E1 |
| MSC-A09WV -E1 (WH) | · MUX-A19WV -E1 |
| MSC-A12WV -E1 (WH) | · MUX-A20WV -E1 |
| | · MUX-A25WV -E1 |
| | · MUX-A26WV -E1 |



MSC-A07WV -E1
MSC-A09WV -E1
MSC-A12WV -E1

## CONTENTS


1. TECHNICAL CHANGES ·····2
2. PART NAMES AND FUNCTIONS·····6
3. INDOOR/OUTDOOR CORRESPONDENCE TABLE ·····8
4. SPECIFICATION·····9
5. NOISE CRITERIA CURVES····· 15
6. OUTLINES AND DIMENSIONS ····· 18
7. WIRING DIAGRAM ·····23
8. REFRIGERANT SYSTEM DIAGRAM·····29
9. PERFORMANCE CURVES·····41
10. MICROPROCESSOR CONTROL ·····76
11. SERVICE FUNCTIONS·····87
12. TROUBLESHOOTING·····89
13. DISASSEMBLY INSTRUCTIONS·····105
14. PARTS LIST·····116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# 1 TECHNICAL CHANGES

**MSC-07RV-E4➔MSC-A07WV-E1**
**MSC-09RV-E4➔MSC-A09WV-E1**
**MSC-12RV-E4➔MSC-A12WV-E1**

1. Rated voltage has changed. (220-240V➔230V)
2. Indoor model has changed.

**MU-07RV-E4➔MU-A07WV-E1**

1. Refrigerant has changed. (R22➔R410A)
2. Compressor has changed. (RH130VGCT➔RN092VHSHT)

**MU-09RV-E4➔MU-A09WV-E1**

1. Refrigerant has changed. (R22➔R410A)
2. Compressor has changed. (RH140VGCT➔RN099VHSHT)

**MU-12RV-E4➔MU-A12WV-E1**

1. Refrigerant has changed. (R22➔R410A)
2. Compressor has changed. (RH220VHAT➔RN135VHSHT)

**MUH-07RV-E4➔MUH-A07WV-E1**

1. Refrigerant has changed. (R22➔R410A)
2. Compressor has changed. (RH130VGCT➔RN092VHSHT)

**MUH-09RV-E4➔MUH-A09WV-E1**

1. Refrigerant has changed. (R22➔R410A)
2. Compressor has changed. (RH165VGCT➔RN104VHSHT)

**MUH-12RV-E4➔MUH-A12WV-E1**

1. Refrigerant has changed. (R22➔R410A)
2. Compressor has changed. (RH220VHAT➔RN135VHSHT)

**MUX-10RV-E2➔MUX-A10WV-E1**

1. Outdoor model has changed.
2. Refrigerant has changed. (R22➔R410A)

**MUX-19TV-E1➔MUX-A19WV-E1**
**MUX-20TV-E1➔MUX-A20WV-E1**
**MUX-25TV-E1➔MUX-A25WV-E1**

1. Refrigerant has changed. (R22➔R410A)

**MUX-24RV-E2➔MUX-A26WV-E1**

1. Outdoor model has changed.
2. Refrigerant has changed. (R22➔R410A)

## INFORMATION FOR THE AIR CONDITIONER WITH R410A REFRIGERANT

- This room air conditioner adopts an HFC refrigerant (R410A) which never destroy the ozone layer.
- Pay particular attention to the following points, though the basic installation procedure is same as that for R22 conditioners.

① As R410A has working pressure approximate 1.6 times as high as that of R22, some special tools and piping parts/ materials are required. Refer to the table below.

② Take sufficient care not to allow water and other contaminations to enter the R410A refrigerant during storage and installation, since it is more susceptible to contaminations than R22.

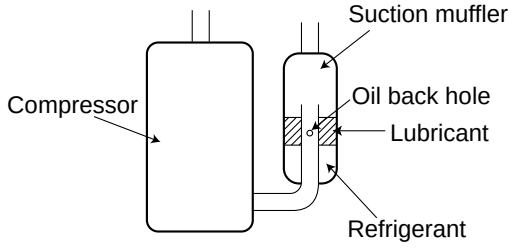
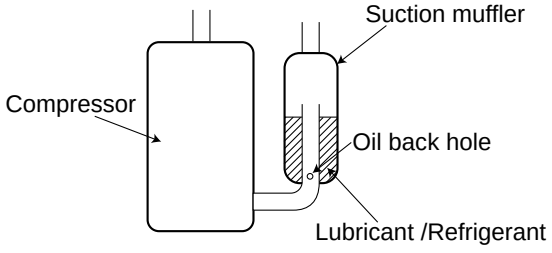
③ For refrigerant piping, use clean, pressure-proof parts / materials specifically designed for R410A. (Refer to 2. Refrigerant piping.)

④ Composition change may occur in R410A since it is a mixed refrigerant. When charging, charge liquid refrigerant to prevent composition change.

| | | New refrigerant | Previous refrigerant |
|---|---|---|---|
| Refrigerant | Refrigerant | R410A | R22 |
| | Composition (Ratio) | HFC-32: HFC-125 (50%:50%) | R22 (100%) |
| | Refrigerant handling | Pseudo-azeotropic refrigerant | Single refrigerant |
| | Chlorine | Not included | Included |
| | Safety group (ASHRAE) | A1/A1 | A1 |
| | Molecular weight | 72.6 | 86.5 |
| | Boiling point (℃) | -51.4 | -40.8 |
| | Steam pressure [25℃](Mpa) | 1.557 | 0.94 |
| | Saturated steam density [25℃](Kg/m³) | 64 | 44.4 |
| | Combustibility | Non combustible | Non combustible |
| | ODP ※1 | 0 | 0.055 |
| | GWP ※2 | 1730 | 1700 |
| | Refrigerant charge method | From liquid phase in cylinder | Gas phase |
| | Additional charge on leakage | Possible | Possible |
| Lubricant | Kind | Incompatible oil | Compatible oil |
| | Color | Non | Light yellow |
| | Smell | Non | Non |

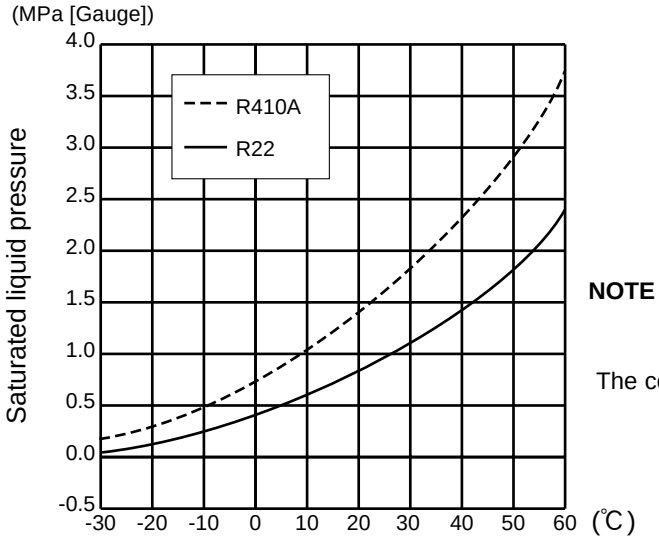
※1 :Ozone Destruction Parameter : based on CFC-11

※2 :Global Warmth Parameter : based on $CO_2$

| | New Specification | Current Specification |
|---|---|---|
| Compressor | The incompatible lubricant easily separates from refrigerant and is in the upper layer inside the suction muffler. Raising position of the oil back hole enables to back the lubricant of the upper layer to the compressor.   | Since refrigerant and lubricant are compatible each, lubricant backs to the compressor through the lower position oil back hole.   |

**NOTE** : The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The conversion factor is: **1(MPa [Gauge]) =10.2(kgf/㎠ [Gauge])**

Conversion chart of refrigerant temperature and pressure




**NOTE** : The unit of pressure has been changed to MPa on the international system of units(SI unit system).

The conversion factor is: **1(MPa [Gauge]) =10.2(kgf/㎠ [Gauge])**

## 1.Tools dedicated for the air conditioner with R410A refrigerant

The following tools are required for R410A refrigerant. Some R22 tools can be substituted for R410A tools.
The diameter of the service port on the stop valve in outdoor unit has been changed to prevent any other refrigerant being charged into the unit. Cap size has been changed from 7/16 UNF with 20 threads to 1/2 UNF with 20 threads.

| R410A tools | Can R22 tools be used? | Description |
|---|---|---|
| Gauge manifold | No | R410A has high pressures beyond the measurement range of existing gauges. Port diameters have been changed to prevent any other refrigerant from being charged into the unit. |
| Charge hose | No | Hose material and cap size have been changed to improve the pressure resistance. |
| Gas leak detector | No | Dedicated for HFC refrigerant. |
| Torque wrench | Yes | 6.35 mm and 9.52 mm |
| | No | 12.7 mm |
| Flare tool | Yes | Clamp bar hole has been enlarged to reinforce the spring strength in the tool. |
| Flare gauge | New | Provided for flaring work (to be used with R22 flare tool). |
| Vacuum pump adapter | New | Provided to prevent the back flow of oil. This adapter enables you to use vacuum pumps. |
| Electronic scale for refrigerant charging | New | It is difficult to measure R410A with a charging cylinder because the refrigerant bubbles due to high pressure and high-speed vaporization |

No : Not Substitutable for R410A  Yes : Substitutable for R410A

## 2.Refrigerant piping

① Specifications

Use the refrigerant pipes that meet the following specifications.

| Pipe | Outside diameter mm | Wall thickness | Insulation material |
|---|---|---|---|
| For liquid | 6.35 | 0.8 mm | Heat resisting foam plastic<br>Specific gravity 0.045  Thickness 8 mm |
| For gas | 9.52 | 0.8 mm | |
| | 12.7 | 0.8 mm | |

• Use a copper pipe or a copper-alloy seamless pipe with a thickness of 0.8 mm. Never use any pipe with a thickness less than 0.8mm, as the pressure resistance is insufficient.

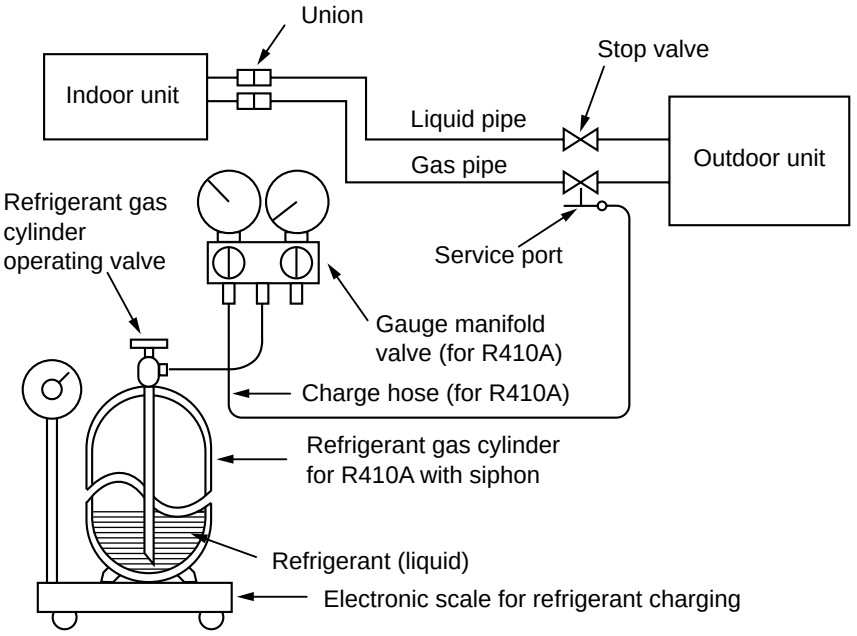
② Flaring work and flare nut
Flaring work for R410A pipe differs from that for R22 pipe.
For details of flaring work, refer to Installation manual “FLARING WORK”.

| Pipe diameter | Dimension of flare nut | |
|---|---|---|
| mm | R410A | R22 |
| 6.35 | 17 | 17 |
| 9.52 | 22 | 22 |
| 12.7 | 26 | 24 |

### 3.Refrigerant oil
Apply the special refrigeration oil (accessories: packed with indoor unit) to the flare and the union seat surfaces.

### 4.Air purge
- Do not discharge the refrigerant into the atmosphere.
  Take care not to discharge refrigerant into the atmosphere during installation, reinstallation, or repairs to the refrigerant circuit.
- Use the vacuum pump for air purging for the purpose of environmental protection.

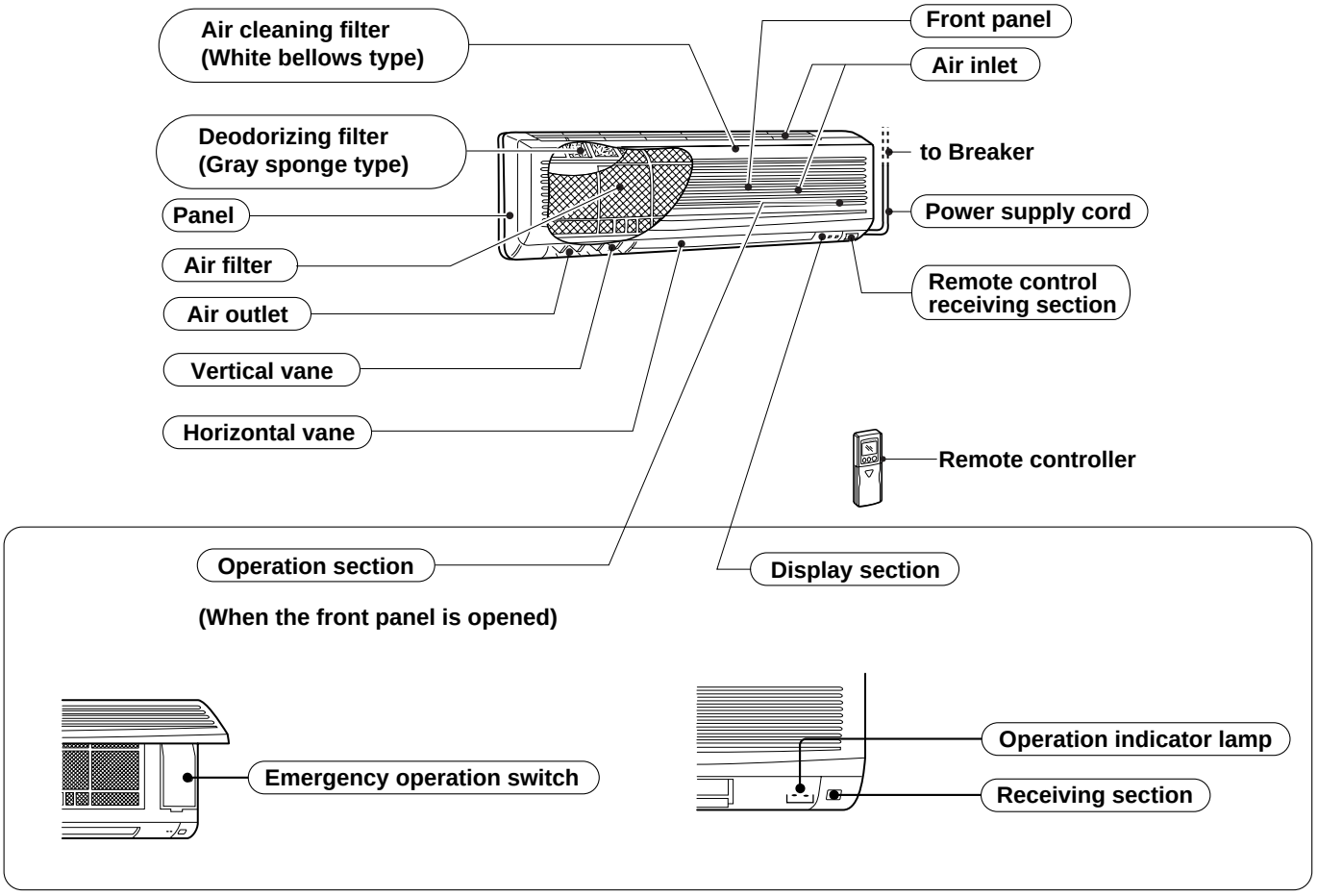
### 5.Additional charge
For additional charging, charge the refrigerant from liquid phase of the gas cylinder.
If the refrigerant is charged from the gas phase, composition change may occur in the refrigerant inside the cylinder and the outdoor unit. In this case, ability of the refrigerating cycle decreases or normal operation can be impossible. However, charging the liquid refrigerant all at once may cause the compressor to be locked. Thus, charge the refrigerant slowly.



# 2 PART NAMES AND FUNCTIONS

## INDOOR UNIT

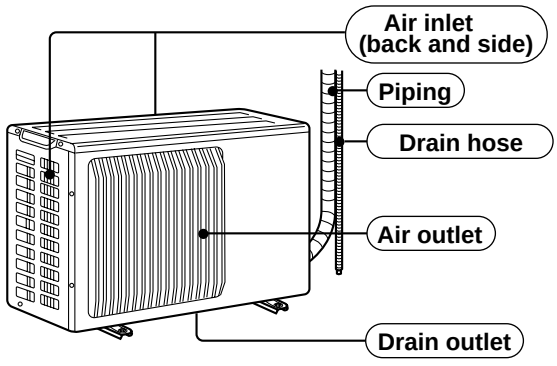
**MSC-A07WV -** E1
**MSC-A09WV -** E1
**MSC-A12WV -** E1

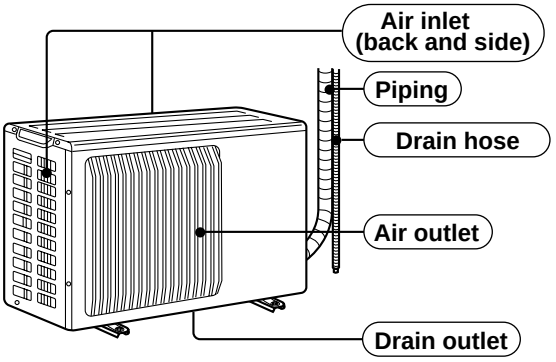



## OUTDOOR UNIT

**MU-A07WV -** E1 **MUH-A07WV -** E1
**MU-A09WV -** E1 **MUH-A09WV -** E1
**MU-A12WV -** E1 **MUH-A12WV -** E1

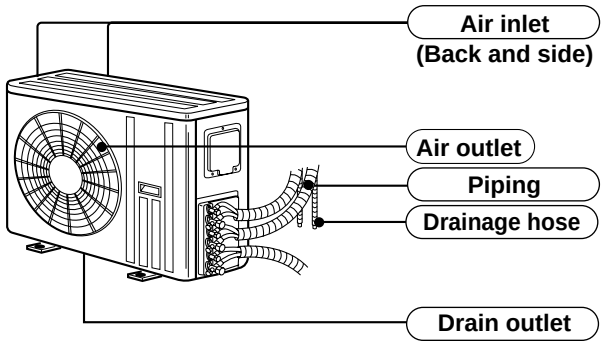
**MUX-A10WV-** E1



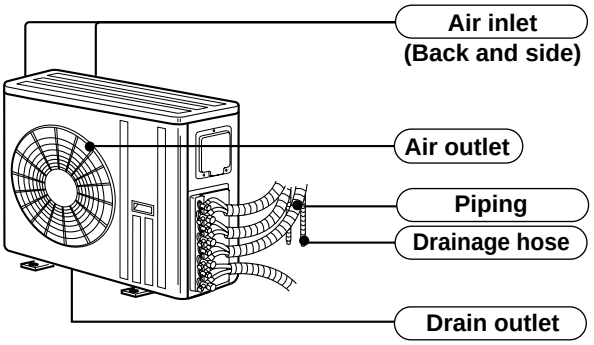



## OUTDOOR UNIT

**MUX-A19WV-E1 MUX-A25WV-E1**
**MUX-A20WV-E1**




**MUX-A26WV-E1**




## ACCESSORIES

**MSC-A07WV-E1**
**MSC-A09WV-E1**
**MSC-A12WV-E1**

<Indoor unit>

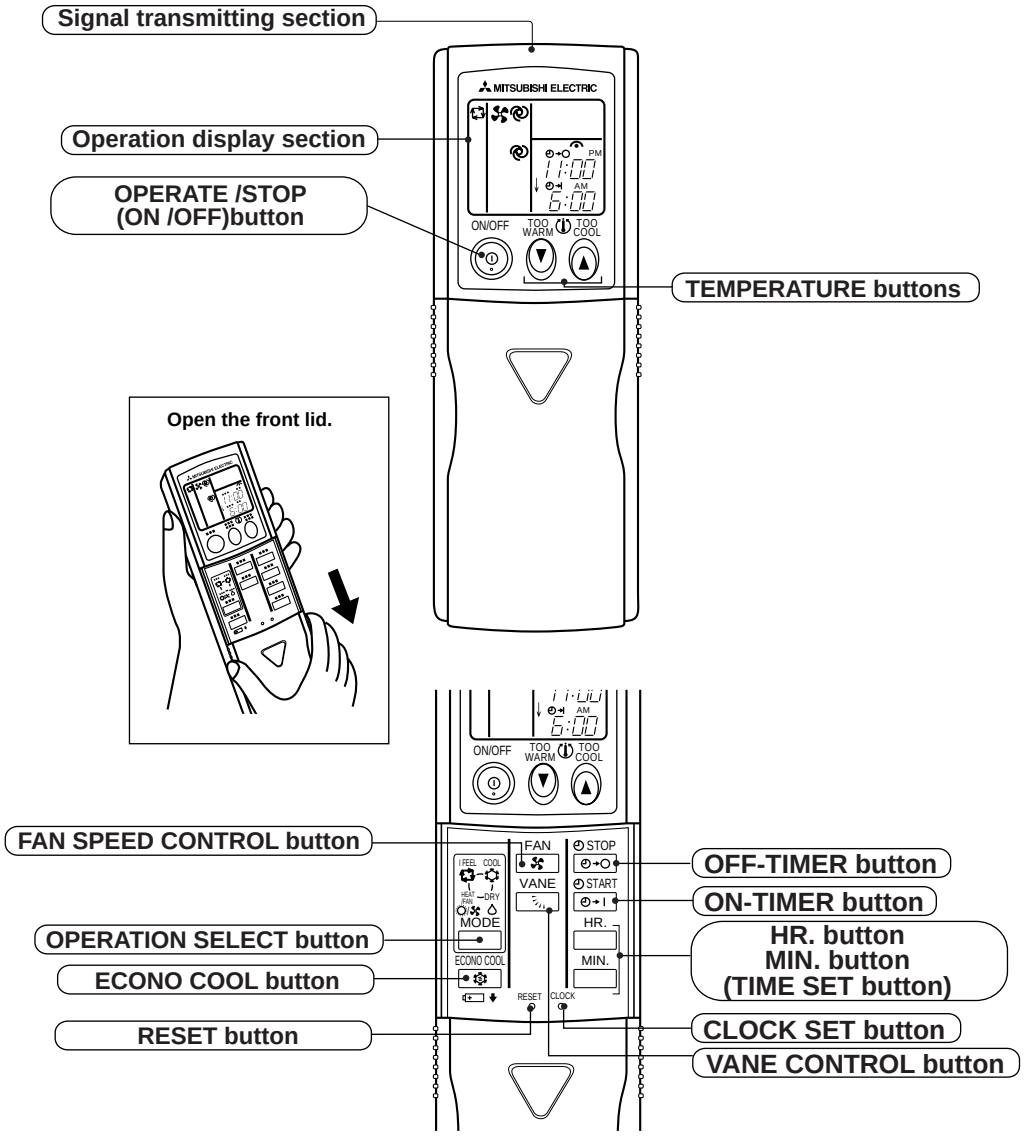
| | | |
|---|---|---|
| ① | Installation plate | 1 |
| ② | Installation plate fixing screw 4 × 25 mm | 5 |
| ③ | Remote controller holder | 1 |
| ④ | Fixing screw for ③ 3.5 × 16 mm | 2 |
| ⑤ | Battery (AAA) for remote controller | 2 |
| ⑥ | Wireless remote controller | 1 |
| ⑦ | Felt tape (Used for left or left-rear piping) | 1 |
| ⑧ | Deodorizing filter | 1 |
| ⑨ | Air cleaning filter | 1 |
| ⑩ | Refrigerant oil | 1 |

**MUH-A07WV-E1**
**MUH-A09WV-E1**
**MUH-A12WV-E1**

<Outdoor unit: MUH type>

| | | |
|---|---|---|
| ⑪ | Drain socket | 1 |
| ⑫ | Drain cap | 2 |

## REMOTE CONTROLLER




# 3 INDOOR/ OUTDOOR CORRESPONDENCE TABLE

**MSC-A07WV -E1 MSC-A09WV -E1 MSC-A12WV -E1**

| | OUTDOOR UNIT | | | | |
|---|---|---|---|---|---|
| | **MUX-A10WV- E1** | **MUX-A19WV- E1** | **MUX-A20WV- E1** | **MUX-A25WV- E1** | **MUX-A26WV- E1** |
| Combination of the connectable indoor units | A: } MSC-A07WV-E1<br>B: } | A: MSC-A12WV- E1<br>B: MSC-A07WV- E1 | A: } MSC-A09WV- E1<br>B: }<br>C: } | A: } MSC-A12WV-E1<br>B: } | A: } MSC-A12WV- E1<br>B: }<br>C: } MSC-A09WV- E1<br>D: } |

# 4 SPECIFICATION

| Indoor model | | | MSC-A07WV - E1 | MSC-A09WV - E1 | MSC-A12WV - E1 |
|---|---|---|---|---|---|
| Function | | | Cooling | Cooling | Cooling |
| Indoor unit power supply | | | Single phase 230V,50Hz | Single phase 230V,50Hz | Single phase 230V,50Hz |
| Capacity | Air flow(High/Med.※/Low※) | m³ /h | 474/372※/276※ | 474/384※/306※ | 582/444※/324※ |
| Electrical data | Power outlet | A | 10 | 10 | 10 |
| | Running current | A | 0.17 | 0.17 | 0.19 |
| | Power input | W | 35 | 35 | 40 |
| | Power factor | % | 90 | 90 | 92 |
| | Starting current | A | — | — | — |
| | Fan motor current | A | 0.17 | 0.17 | 0.19 |
| Fan motor | Model | | RC4V19-LA | RC4V19-LA | RC4V19-KA |
| | Winding resistance(at20℃) | Ω | WHT-BLK 413<br>BLK-RED 334 | WHT-BLK 413<br>BLK-RED 334 | WHT-BLK 316<br>BLK-RED 299 |
| | Dimensions W×H×D | mm | 815×278×217 | 815×278×217 | 815×278×217 |
| | Weight | kg | 9 | 9 | 10 |
| | Air direction | | 5 | 5 | 5 |
| Special remarks | Sound level(High/Med.※/Low※) | dB | 36/31※/25※ | 36/31※/25※ | 40/33※/26※ |
| | Fan speed (High/Med.※/Low※) | rpm | 900/750※/600※ | 900/770※/650※ | 930/760※/600※ |
| | Fan speed regulator | | 3 | 3 | 3 |
| | Thermistor RT11(at25℃) | kΩ | 10 | 10 | 10 |
| | Thermistor RT12(at25℃) | kΩ | 10 | 10 | 10 |
| Outdoor model | | | MU-A07WV - E1 | MU-A09WV - E1 | MU-A12WV - E1 |
| Outdoor unit power supply | | | Single phase 230V,50Hz | Single phase 230V,50Hz | Single phase 230V,50Hz |
| Capacity | Capacity | kW | 2.3 | 2.55 | 3.45 |
| | Dehumidification | ℓ /h | 0.9 | 1.1 | 1.6 |
| | Outdoor air flow | m³ /h | 1,686 | 1,686 | 1,914 |
| Electrical data | Power outlet | A | 10 | 10 | 10 |
| | Running current | A | 2.98 | 3.26 | 4.91 |
| | Power input | W | 675 | 745 | 1,100 |
| | Auxiliary heater | A(kW) | — | — | — |
| | Power factor | % | 98 | 99 | 97 |
| | Starting current | A | 23 | 24 | 29 |
| | Compressor motor current | A | 2.76 | 3.04 | 4.60 |
| | Fan motor current | A | 0.22 | 0.22 | 0.31 |
| Coefficient of performance(C.O.P) | | | 3.24 | 3.27 | 3.03 |
| Compressor | Model | | RN092VHSHT | RN099VHSHT | RN135VHSHT |
| | Output | W | 600 | 700 | 900 |
| | Winding resistance(at20℃) | Ω | C-R 3.87<br>C-S 6.14 | C-R 3.40<br>C-S 4.56 | C-R 2.79<br>C-S 3.36 |
| Fan motor | Model | | RA6V23-FC | RA6V23-FC | RA6V33-DC |
| | Winding resistance(at20℃) | Ω | WHT-BLK 353<br>BLK-RED 321 | WHT-BLK 353<br>BLK-RED 321 | WHT-BLK 301<br>BLK-RED 332 |
| | Dimensions W×H×D | mm | 780×540×255 | 780×540×255 | 780×540×255 |
| | Weight | kg | 34 | 34 | 36 |
| Special remarks | Sound level | dB | 45 | 45 | 49 |
| | Fan speed | rpm | 735 | 735 | 825 |
| | Fan speed regulator | | 1 | 1 | 1 |
| | Refrigerant filling capacity(R410A) | kg | 0.75 | 0.80 | 0.83 |
| | Refrigerating oil (Model) | cc | 350 (NEO22 ) | 350 (NEO22 ) | 620 (NEO22) |

**NOTE:** Test conditions are based on ISO 5151.
Cooling : Indoor DB27°C WB19°C
Outdoor DB35°C WB24°C
Indoor-Outdoor piping length 5m
※ Reference value

| Indoor model | | | MSC-A07WV - E1 | | MSC-A09WV - E1 | | MSC-A12WV - E1 | |
|---|---|---|---|---|---|---|---|---|
| Function | | | Cooling | Heating | Cooling | Heating | Cooling | Heating |
| Indoor unit power supply | | | Single phase 230V,50Hz | | Single phase 230V,50Hz | | Single phase 230V,50Hz | |
| Capacity | Air flow(High/Med.※/Low※) | m³ /h | 474/372※/276※ | 510/420※/342※ | 474/384※/306※ | 588/456※/342※ | 582/444※/324※ | 606/498※/396※ |
| Electrical data | Power outlet | A | 10 | | 10 | | 10 | |
| | Running current | A | 0.17 | | 0.17 | | 0.19 | |
| | Power input | W | 35 | | 35 | | 40 | |
| | Power factor | % | 90 | | 90 | | 92 | |
| | Starting current | A | — | | — | | — | |
| | Fan motor current | A | 0.17 | | 0.17 | | 0.19 | |
| Fan motor | Model | | RC4V19-LA | | RC4V19-LA | | RC4V19-KA | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 413<br>BLK-RED 334 | | WHT-BLK 413<br>BLK-RED 334 | | WHT-BLK 316<br>BLK-RED 299 | |
| | Dimensions W×H×D | mm | 815×278×217 | | 815×278×217 | | 815×278×217 | |
| | Weight | kg | 9 | | 9 | | 10 | |
| | Air direction | | 5 | | 5 | | 5 | |
| Special remarks | Sound level(High/Med.※/Low※) | dB | 36/31※/25※ | 36/31※/25※ | 36/31※/25※ | 39/32※/25※ | 40/33※/26※ | 39/33※/26※ |
| | Fan speed(High/Med.※/Low※) | rpm | 900/750※/600※ | 950/820※/700※ | 900/770※/650※ | 1,050/870※/700※ | 930/760※/600※ | 960/830※/700※ |
| | Fan speed regulator | | 3 | | 3 | | 3 | |
| | Thermistor RT11(at25℃) | kΩ | 10 | | 10 | | 10 | |
| | Thermistor RT12(at25℃) | kΩ | 10 | | 10 | | 10 | |
| Outdoor model | | | MUH-A07WV - E1 | | MUH-A09WV - E1 | | MUH-A12WV - E1 | |
| Outdoor unit power supply | | | Single phase 230V,50Hz | | Single phase 230V,50Hz | | Single phase 230V,50Hz | |
| Capacity | Capacity | kW | 2.3 | 2.5 | 2.55 | 3.05 | 3.4 | 3.9 |
| | Dehumidification | ℓ /h | 0.9 | — | 1.1 | — | 1.6 | — |
| | Outdoor air flow | m³ /h | 1,686 | | 1,710 | | 1,710 | |
| Electrical data | Power outlet | A | 10 | | 10 | | 10 | |
| | Running current | A | 2.98 | 2.86 | 3.26 | 3.52 | 4.51 | 4.61 |
| | Power input | W | 675 | 655 | 745 | 805 | 1,020 | 1,040 |
| | Auxiliary heater | A(kW) | — | | — | | — | |
| | Power factor | % | 98 | 100 | 99 | 99 | 98 | 98 |
| | Starting current | A | 23 | | 24 | | 29 | |
| | Compressor motor current | A | 2.76 | 2.64 | 2.95 | 3.21 | 4.20 | 4.30 |
| | Fan motor current | A | 0.22 | | 0.31 | | 0.31 | |
| Coefficient of performance(C.O.P) | | | 3.24 | 3.62 | 3.27 | 3.69 | 3.21 | 3.61 |
| Compressor | Model | | RN092VHSHT | | RN104VHSHT | | RN135VHSHT | |
| | Output | W | 600 | | 700 | | 900 | |
| | Winding resistance(at20℃) | Ω | C-R 3.87<br>C-S 6.14 | | C-R 3.40<br>C-S 4.56 | | C-R 2.79<br>C-S 3.36 | |
| Fan motor | Model | | RA6V23-FB | | RA6V33-DB | | RA6V33-DB | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 353<br>BLK-RED 321 | | WHT-BLK 301<br>BLK-RED 332 | | WHT-BLK 301<br>BLK-RED 332 | |
| | Dimensions W×H×D | mm | 780×540×255 | | 780×540×255 | | 780×540×255 | |
| | Weight | kg | 35 | | 38 | | 40 | |
| Special remarks | Sound level | dB | 47 | | 49 | | 49 | |
| | Fan speed | rpm | 735 | | 825 | | 825 | |
| | Fan speed regulator | | 1 | | 1 | | 1 | |
| | Refrigerant filling capacity(R410A) | kg | 0.75 | | 1.10 | | 1.15 | |
| | Refrigerating oil (Model) | cc | 350 (NEO22) | | 350 (NEO22) | | 620 (NEO22) | |
| | Thermistor RT61(at0℃) | kΩ | 33.18 | | 33.18 | | 33.18 | |

**NOTE:** Test conditions are based on ISO 5151.

Cooling : Indoor DB27°C WB19°C
Outdoor DB35°C WB24°C

Heating : Indoor DB20°C
Outdoor DB 7°C / WB 6°C

Indoor-Outdoor piping length 5m

※ Reference value

| Indoor model | | | MSC-A07WV - E1 | MSC-A07WV - E1 | MSC-A12WV - E1 |
|---|---|---|---|---|---|
| Function | | | Cooling | Cooling | Cooling |
| Indoor unit power supply | | | Single phase 230V,50Hz | Single phase 230V,50Hz | Single phase 230V,50Hz |
| Capacity | Air flow (High/Med.※/Low※) | m³ /h | 474/372※/276※ | 474/372※/276※ | 582/444※/324※ |
| Electrical data | Power outlet | A | 10 | 10 | 10 |
| | Running current | A | 0.17 | 0.17 | 0.19 |
| | Power input | W | 35 | 35 | 40 |
| | Power factor | % | 90 | 90 | 92 |
| | Starting current | A | — | — | — |
| | Fan motor current | A | 0.17 | 0.17 | 0.19 |
| Fan motor | Model | | RC4V19-LA | RC4V19-LA | RC4V19-KA |
| | Winding resistance(at20℃) | Ω | WHT-BLK 413<br>BLK-RED 334 | WHT-BLK 413<br>BLK-RED 334 | WHT-BLK 316<br>BLK-RED 299 |
| | Dimensions W×H×D | mm | 815×278×217 | 815×278×217 | 815×278×217 |
| | Weight | kg | 9 | 9 | 10 |
| | Air direction | | 5 | 5 | 5 |
| Special remarks | Sound level (High/Med.※/Low※) | dB | 36/31※/25※ | 36/31※/25※ | 40/33※/26※ |
| | Fan speed (High/Med.※/Low※) | rpm | 900/750※/600※ | 900/750※/600※ | 930/760※/600※ |
| | Fan speed regulator | | 3 | 3 | 3 |
| | Thermistor RT11(at25℃) | kΩ | 10 | 10 | 10 |
| | Thermistor RT12(at25℃) | kΩ | 10 | 10 | 10 |

| Outdoor model | | | MUX-A10WV - E1 | | MUX-A19WV - E1 | | |
|---|---|---|---|---|---|---|---|
| Outdoor unit power supply | | | Single phase 230V,50Hz | | Single phase 230V,50Hz | | |
| Indoor unit No. | | | Single A or B | Double A+B | Single A | Single B | Double A+B |
| Capacity | Capacity | kW | 2.4 | 1.4×2 | 3.5 | 2.4 | 3.5+2.4 |
| | Dehumidification | ℓ /h | 0.9 | 0.2×2 | 1.4 | 0.9 | 1.4+0.9 |
| | Outdoor air flow | m³ /h | 1,914 | | 2,460 | | |
| Electrical data | Power outlet | A | 10 | | 20 | | |
| | Running current | A | 3.20 | 3.25 | 5.73 | 3.51 | 8.96 |
| | Power input | W | 725 | 730 | 1,280 | 785 | 2,005 |
| | Auxiliary heater | A(kW) | — | | — | | |
| | Power factor | % | 98.5 | 97.7 | 97.1 | 97.2 | 97.3 |
| | Starting current | A | 21 | | 48 | | |
| | Compressor motor current | A | 2.91 | 2.96 | 5.16 | 2.94 | 8.39 |
| | Fan motor current | A | 0.29 | | 0.57 | | |
| Coefficient of performance(C.O.P) | | | 3.16 | 3.50 | 2.65 | 2.93 | 2.84 |
| Compressor | Model | | RN092VHSHT | | MC1 : RN145VHSHT, MC2 : RN092VHSHT | | |
| | Output | W | 600 | | MC1 : 1,000, MC2 : 600 | | |
| | Winding resistance(at20℃) | Ω | C-R 3.87<br>C-S 6.14 | | MC1 : C-R 2.43 / C-S 3.80 , MC2 : C-R 3.87 / C-S 6.14 | | |
| Fan motor | Model | | RA6V33-FC | | RA6V60-GA | | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 223<br>BLK-RED 221 | | WHT-BLK 90<br>BLK-RED 146 | | |
| | Dimensions W×H×D | mm | 780×540×255 | | 840×640×330 | | |
| | Weight | kg | 35 | | 66 | | |
| Special remarks | Sound level | dB | 49 | | 52 | | |
| | Fan speed | rpm | 825 | | 730 | | |
| | Fan speed regulator | | 1 | | 1 | | |
| | Refrigerant filling capacity(R410A) | kg | 0.90 (Room A+B) | | 1.00 (Room A)<br>0.80 (Room B) | | |
| | Refrigerating oil (Model) | cc | 350 (NEO22) | | MC1 : 620 (NEO22), MC2 : 350 (NEO22) | | |

**NOTE:** Test conditions are based on ISO 5151.

Cooling : Indoor DB27°C WB19°C
Outdoor DB35°C WB24°C

Heating : Indoor DB20°C
Outdoor DB 7°C / WB 6°C

Indoor-Outdoor piping length 5m

※ Reference value

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Indoor model | | | **MSC-A09WV -** E1 | | | | | |
| Function | | | Cooling | | | | | |
| Indoor unit power supply | | | Single phase 230V,50Hz | | | | | |
| Capacity | Air flow (High/Med.※/Low※) | m³ /h | 474/384※/306※ | | | | | |
| Electrical data | Power outlet | A | 10 | | | | | |
| | Running current | A | 0.17 | | | | | |
| | Power input | W | 35 | | | | | |
| | Power factor | % | 90 | | | | | |
| | Starting current | A | — | | | | | |
| | Fan motor current | A | 0.17 | | | | | |
| Fan motor | Model | | RC4V19-LA | | | | | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 413<br>BLK-RED 334 | | | | | |
| | Dimensions W×H×D | mm | 815×278×217 | | | | | |
| | Weight | kg | 9 | | | | | |
| | Air direction | | 5 | | | | | |
| Special remarks | Sound level (High/Med.※/Low※) | dB | 36/31※/25※ | | | | | |
| | Fan speed (High/Med.※/Low※) | rpm | 900/770※/650※ | | | | | |
| | Fan speed regulator | | 3 | | | | | |
| | Thermistor RT11(at25℃) | kΩ | 10 | | | | | |
| | Thermistor RT12(at25℃) | kΩ | 10 | | | | | |
| Outdoor model | | | **MUX-A20WV -** E1 | | | | | |
| Outdoor unit power supply | | | Single phase 230V,50Hz | | | | | |
| Indoor unit No. | | | Single A | Single B or C | Double A+B or A+C | Double B+C | Triple A+B+C | |
| Capacity | Capacity | kW | 2.6 | 2.9 | 2.6+2.8 | 1.75×2 | 2.5+1.75×2 | |
| | Dehumidification | ℓ /h | 0.9 | 1.2 | 0.9+1.1 | 0.3×2 | 0.8+0.3×2 | |
| | Outdoor air flow | m³ /h | 2,460 | | | | | |
| Electrical data | Power outlet | A | 20 | | | | | |
| | Running current | A | 3.64 | 4.86 | 8.18 | 4.86 | 8.41 | |
| | Power input | W | 815 | 1,075 | 1,850 | 1,090 | 1,885 | |
| | Auxiliary heater | A(kW) | — | | | | | |
| | Power factor | % | 97.3 | 96.2 | 98.3 | 97.5 | 97.5 | |
| | Starting current | A | 47 | | | | | |
| | Compressor motor current | A | 3.07 | 4.29 | 7.61 | 4.29 | 7.84 | |
| | Fan motor current | A | 0.57 | | | | | |
| Coefficient of performance(C.O.P) | | | 3.06 | 2.61 | 2.81 | 3.02 | 3.02 | |
| Compressor | Model | | MC1 : RN099VHSHT, MC2 : RN125VHSHT | | | | | |
| | Output | W | MC1 : 650, MC2 : 800 | | | | | |
| | Winding resistance(at20℃) | Ω | MC1 : C-R 3.40, C-S 4.56 , MC2 : C-R 2.86, C-S 5.72 | | | | | |
| Fan motor | Model | | RA6V60-GA | | | | | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 90<br>BLK-RED 146 | | | | | |
| | Dimensions W×H×D | mm | 840×640×330 | | | | | |
| | Weight | kg | 65 | | | | | |
| Special remarks | Sound level | dB | 52 | | | | | |
| | Fan speed | rpm | 730 | | | | | |
| | Fan speed regulator | | 1 | | | | | |
| | Refrigerant filling capacity(R410A) | kg | 0.80 (Room A)<br>1.00 (Room B+C) | | | | | |
| | Refrigerating oil (Model) | cc | MC1 : 350 (NEO22), MC2 : 350 (NEO22) | | | | | |

**NOTE:** Test conditions are based on ISO 5151.

Cooling : Indoor DB27°C WB19°C
Outdoor DB35°C WB24°C

Heating : Indoor DB20°C
Outdoor DB 7°C / WB 6°C

Indoor-Outdoor piping length 5m

※ Reference value

| | | | | |
|---|---|---|---|---|
| Indoor model | | | **MSC-A12WV -** E1 (Unit A ,B) | |
| Function | | | Cooling | |
| Indoor unit power supply | | | Single phase 230V,50Hz | |
| Capacity | Air flow (High/Med.※/Low※) | m³ /h | 582/444※/324※ | |
| Electrical data | Power outlet | A | 10 | |
| | Running current | A | 0.19 | |
| | Power input | W | 40 | |
| | Power factor | % | 92 | |
| | Starting current | A | — | |
| | Fan motor current | A | 0.19 | |
| Fan motor | Model | | RC4V19-KA | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 316<br>BLK-RED 299 | |
| | Dimensions W×H×D | mm | 815×278×217 | |
| | Weight | kg | 10 | |
| | Air direction | | 5 | |
| Special remarks | Sound level (High/Med.※/Low※) | dB | 40/33※/26※ | |
| | Fan speed (High/Med.※/Low※) | rpm | 930/760※/600※ | |
| | Fan speed regulator | | 3 | |
| | Thermistor RT11(at25℃) | kΩ | 10 | |
| | Thermistor RT12(at25℃) | kΩ | 10 | |
| Outdoor model | | | **MUX-A25WV -** E1 | |
| Outdoor unit power supply | | | Single phase 230V,50Hz | |
| Indoor unit No. | | | Single<br>A or B | Double<br>A+B |
| Capacity | Capacity | kW | 3.5 | 3.5×2 |
| | Dehumidification | ℓ /h | 1.4 | 1.4×2 |
| | Outdoor air flow | m³ /h | 2,460 | |
| Electrical data | Power outlet | A | 20 | |
| | Running current | A | 5.88 | 11.49 |
| | Power input | W | 1,300 | 2,540 |
| | Auxiliary heater | A(kW) | — | |
| | Power factor | % | 96.1 | 96.1 |
| | Starting current | A | 54 | |
| | Compressor motor current | A | 5.31 | 10.92 |
| | Fan motor current | A | 0.57 | |
| Coefficient of performance(C.O.P) | | | 2.61 | 2.67 |
| Compressor | Model | | MC1 : RN145VHSHT, MC2 : RN145VHSHT | |
| | Output | W | MC1 : 1,000, MC2 : 1,000 | |
| | Winding resistance(at20℃) | Ω | MC1 : C-R 2.43, C-S 3.80 , MC2 : C-R 2.43, C-S 3.80 | |
| Fan motor | Model | | RA6V60-GA | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 90<br>BLK-RED 146 | |
| | Dimensions W×H×D | mm | 840×640×330 | |
| | Weight | kg | 68 | |
| Special remarks | Sound level | dB | 52 | |
| | Fan speed | rpm | 730 | |
| | Fan speed regulator | | 1 | |
| | Refrigerant filling capacity(R410A) | kg | 0.95 (Room A)<br>0.95 (Room B) | |
| | Refrigerating oil (Model) | cc | MC1 : 620 (NEO22), MC2 : 620 (NEO22) | |

**NOTE:** Test conditions are based on ISO 5151.

Cooling : Indoor DB27°C WB19°C
Outdoor DB35°C WB24°C

Heating : Indoor DB20°C
Outdoor DB 7°C / WB 6°C

Indoor-Outdoor piping length 5m

※ Reference value

| Indoor model | | | MSC-A09WV - E1 (Unit C ,D) | MSC-A12WV - E1 (Unit A ,B) |
|---|---|---|---|---|
| Function | | | Cooling | Cooling |
| Indoor unit power supply | | | Single phase 230V,50Hz | Single phase 230V,50Hz |
| Capacity | Air flow (High/Med.※/Low※) | m³ /h | 474/384※/306※ | 582/444※/324※ |
| Electrical data | Power outlet | A | 10 | 10 |
| | Running current | A | 0.17 | 0.19 |
| | Power input | W | 35 | 40 |
| | Power factor | % | 90 | 92 |
| | Starting current | A | — | — |
| | Fan motor current | A | 0.17 | 0.19 |
| Fan motor | Model | | RC4V19-LA | RC4V19-KA |
| | Winding resistance(at20℃) | Ω | WHT-BLK 413<br>BLK-RED 334 | WHT-BLK 316<br>BLK-RED 299 |
| | Dimensions W×H×D | mm | 815×278×217 | 815×278×217 |
| | Weight | kg | 9 | 10 |
| | Air direction | | 5 | 5 |
| Special remarks | Sound level (High/Med.※/Low※) | dB | 36/31※/25※ | 40/33※/26※ |
| | Fan speed (High/Med.※/Low※) | rpm | 900/770※/650※ | 930/760※/600※ |
| | Fan speed regulator | | 3 | 3 |
| | Thermistor RT11(at25℃) | kΩ | 10 | 10 |
| | Thermistor RT12(at25℃) | kΩ | 10 | 10 |

| Outdoor model | | | MUX-A26WV - E1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Outdoor unit power supply | | | Single phase 230V,50Hz | | | | | | | |
| Indoor unit No. | | | Single A or B | Single C or D | Double A+B | Double A+C or A+D or B+C or B+D | Double C+D | Triple A+B+C or A+B+D | Triple A+C+D or B+C+D | Four A+B+C+D |
| Capacity | Capacity | kW | 3.4 | 2.75 | 1.95×2 | 3.4+2.7 | 1.7×2 | 1.95×2+2.8 | 3.4+1.7×2 | 1.95×2+1.7×2 |
| | Dehumidification | ℓ /h | 1.2 | 1.1 | 0.2×2 | 1.2+1.1 | 0.3×2 | 0.2×2+1.1 | 1.2+0.3×2 | 0.2×2+0.3×2 |
| | Outdoor air flow | m³ /h | 2,760 | | | | | | | |
| Electrical data | Power outlet | A | 20 | | | | | | | |
| | Running current | A | 5.28 | 4.54 | 5.46 | 9.57 | 4.78 | 9.61 | 9.66 | 9.75 |
| | Power input | W | 1,180 | 1,015 | 1,210 | 2,095 | 1,060 | 2,105 | 2,140 | 2,210 |
| | Auxiliary heater | A(kW) | — | | | | | | | |
| | Power factor | % | 97.2 | 97.2 | 96.4 | 95.2 | 96.4 | 95.2 | 96.3 | 98.6 |
| | Starting current | A | 52 | | | | | | | |
| | Compressor motor current | A | 4.75 | 4.01 | 4.93 | 9.04 | 4.25 | 9.08 | 9.13 | 9.22 |
| | Fan motor current | A | 0.53 | | | | | | | |
| Coefficient of performance(C.O.P) | | | 2.79 | 2.62 | 3.02 | 2.81 | 3.01 | 3.02 | 3.02 | 3.09 |
| Compressor | Model | | MC1 : RN145VHSHT, MC2 : RN125VHSHT | | | | | | | |
| | Output | W | MC1 : 1,000, MC2 : 800 | | | | | | | |
| | Winding resistance(at20℃) | Ω | MC1 : C-R 2.43, C-S 3.80 , MC2 : C-R 2.86, C-S 5.72 | | | | | | | |
| Fan motor | Model | | RA6V60-FA | | | | | | | |
| | Winding resistance(at20℃) | Ω | WHT-BLK 79<br>BLK-RED 80 | | | | | | | |
| | Dimensions W×H×D | mm | 840×850×330 | | | | | | | |
| | Weight | kg | 76 | | | | | | | |
| Special remarks | Sound level | dB | 52 | | | | | | | |
| | Fan speed | rpm | 730 | | | | | | | |
| | Fan speed regulator | | 1 | | | | | | | |
| | Refrigerant filling capacity(R410A) | kg | 1.05 (Room A+B)<br>1.05 (Room C+D) | | | | | | | |
| | Refrigerating oil (Model) | cc | MC1 : 620 (NEO22), MC2 : 350 (NEO22) | | | | | | | |

**NOTE:** Test conditions are based on ISO 5151.

Cooling : Indoor DB27°C WB19°C
Outdoor DB35°C WB24°C

Heating : Indoor DB20°C
Outdoor DB 7°C / WB 6°C

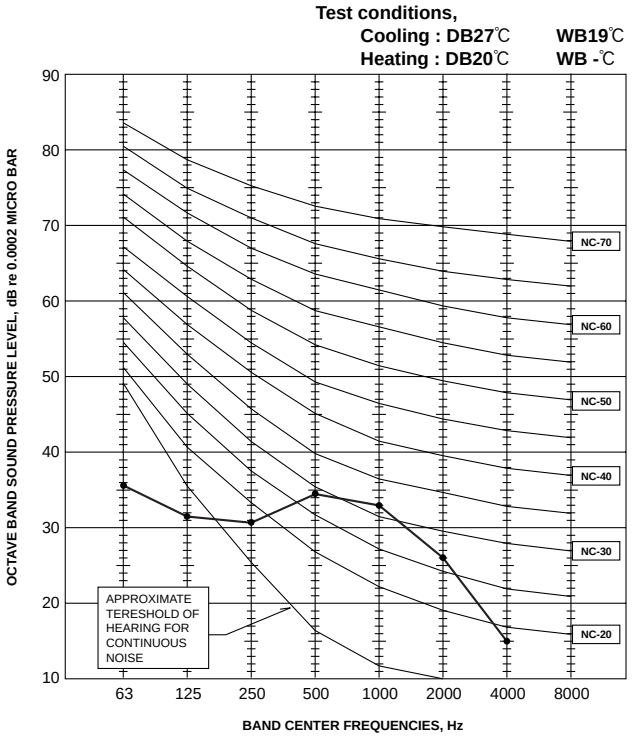
Indoor-Outdoor piping length 5m

※ Reference value

# 5 NOISE CRITERIA CURVES

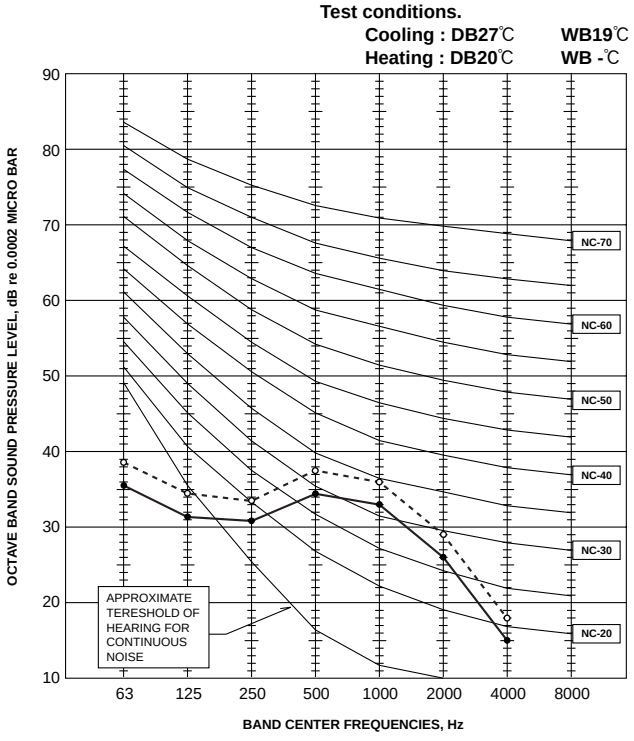
## MSC-A07WV- E1

| FAN SPEED | FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|---|
| High | COOL | 36 | ●——● |
| | HEAT | | |



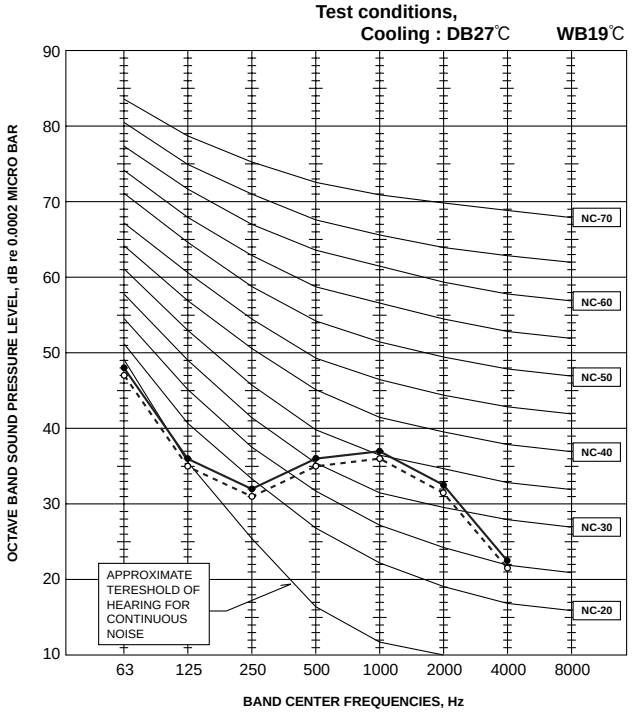

## MSC-A09WV- E1

| FAN SPEED | FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|---|
| High | COOL | 36 | ●——● |
| | HEAT | 39 | ○- - -○ |



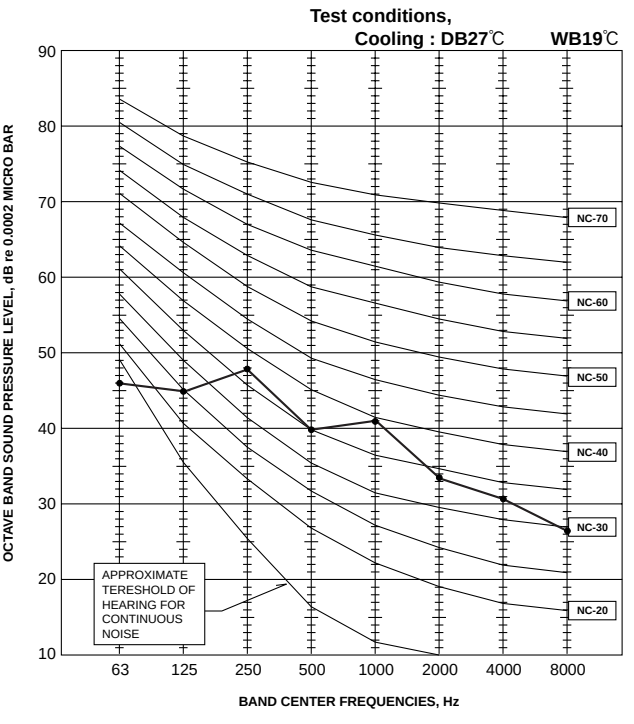

## MSC-A12WV- E1

| FAN SPEED | FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|---|
| High | COOL | 40 | ●——● |
| | HEAT | 39 | ○- - -○ |



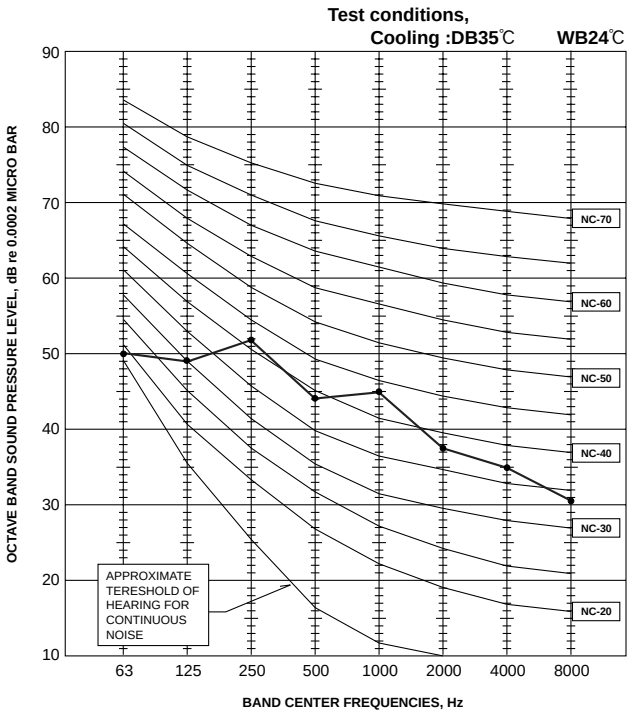

## MU-A07WV- E1
## MU-A09WV- E1

| FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|
| COOL | 45 | ●——● |



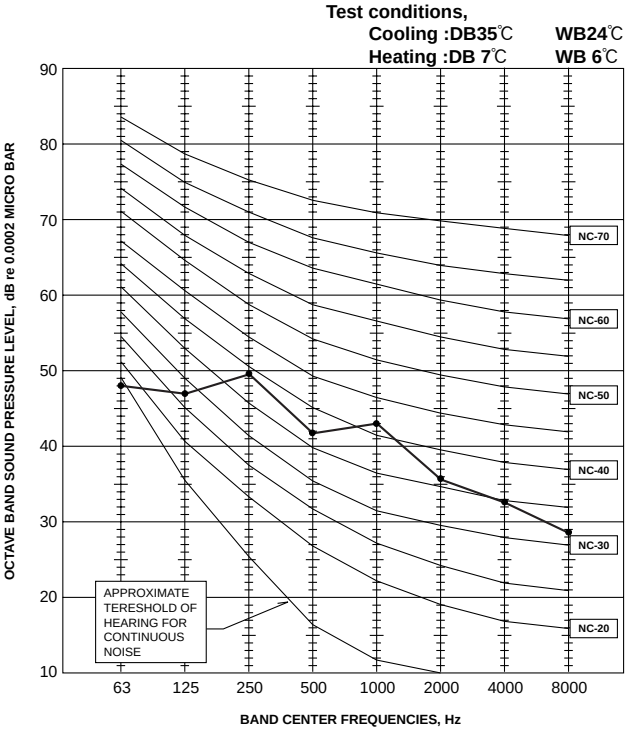
## MU-A12WV- E1

| FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|
| COOL | 49 | |



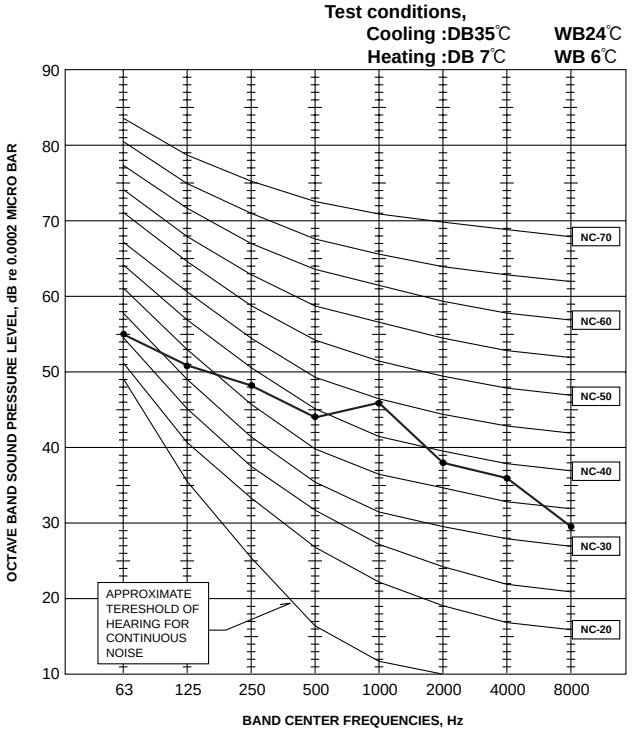

## MUH-A07WV- E1

| FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|
| COOL | 47 | |
| HEAT | | |



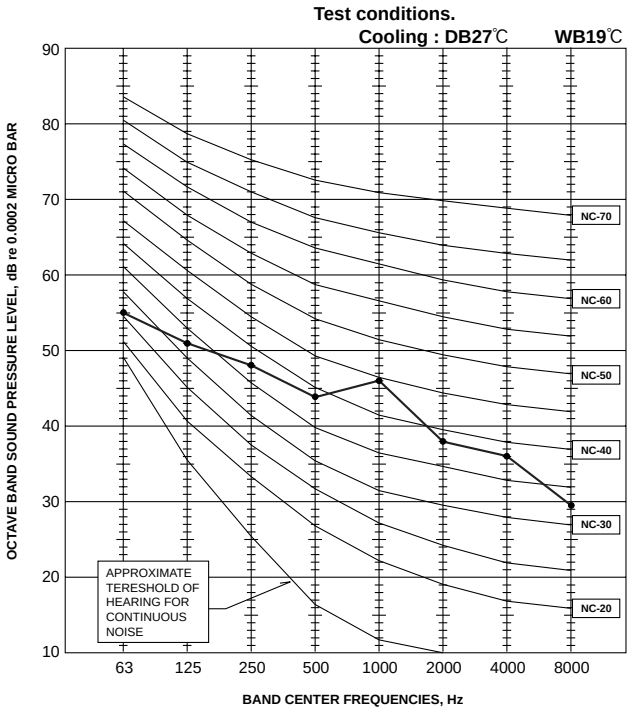

## MUH-A09WV- E1
## MUH-A12WV- E1

| FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|
| COOL | 49 | |
| HEAT | | |




## MUX-A10WV- E1

| FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|
| COOL | 49 | |

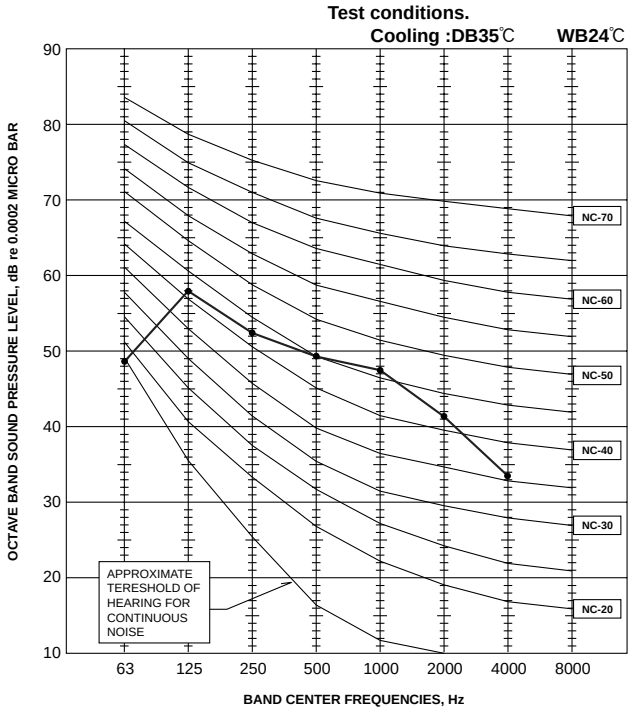


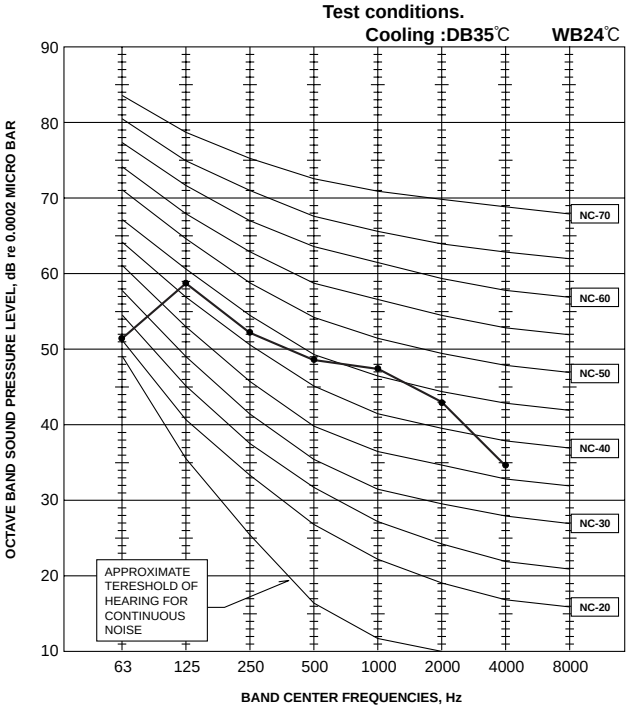
**MUX-A19WV - E1**
**MUX-A20WV - E1**
**MUX-A25WV - E1**

| FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|
| COOL | 52 | |

**MUX-A26WV - E1**

| FUNCTION | SPL(dB(A)) | LINE |
|---|---|---|
| COOL | 52 | |



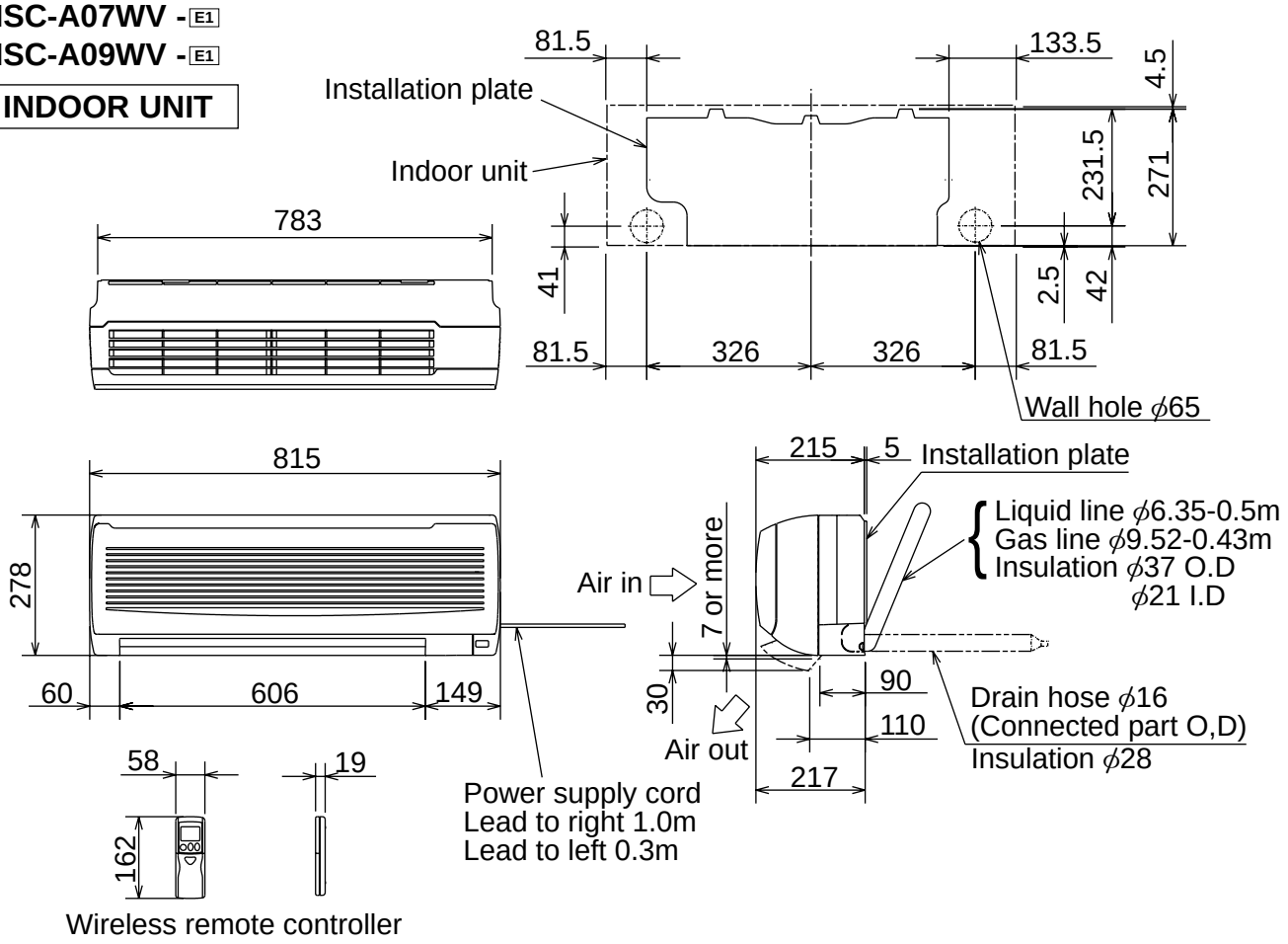



# 6 OUTLINES AND DIMENSIONS

Unit: mm

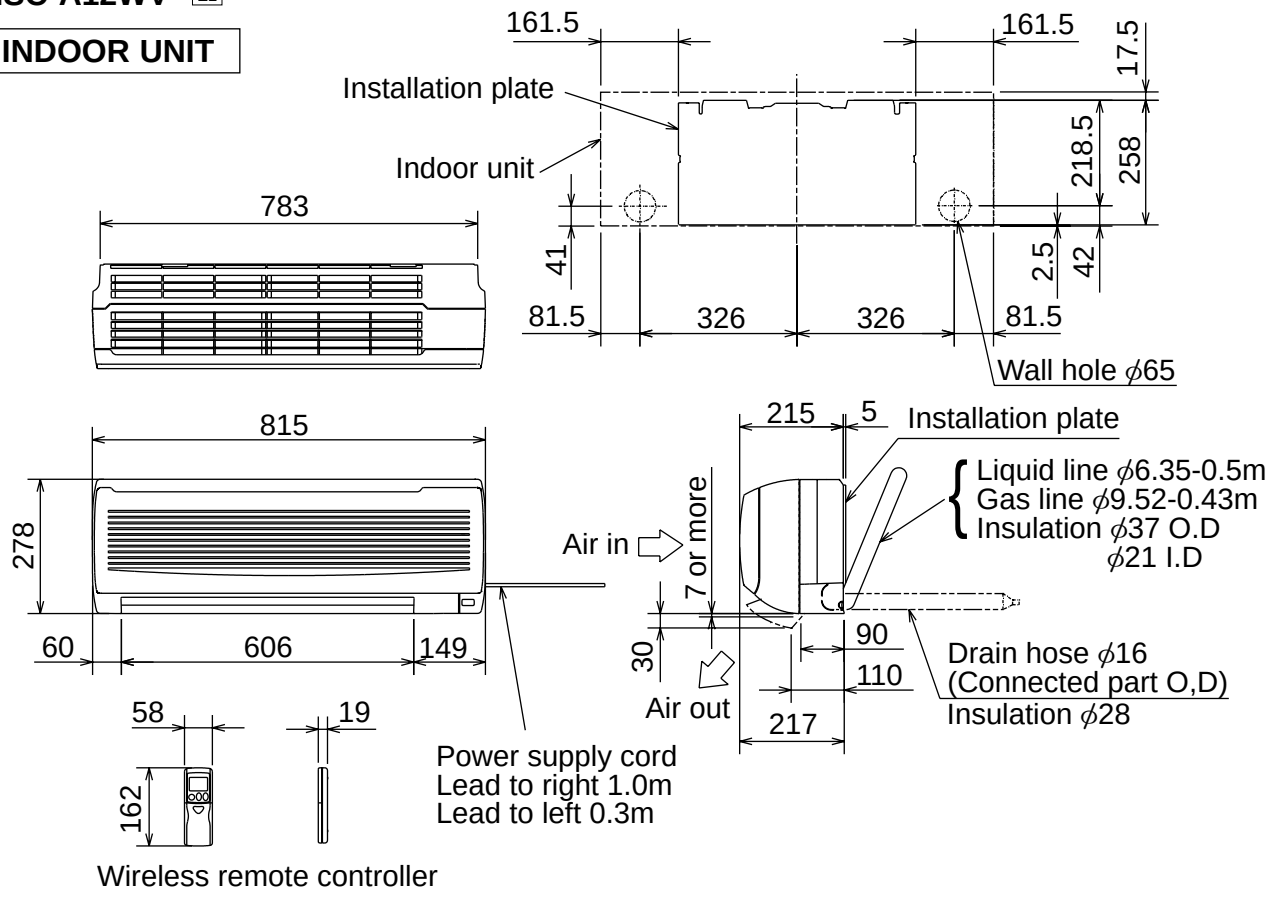
**MSC-A07WV -** E1
**MSC-A09WV -** E1

**INDOOR UNIT**




**MSC-A12WV -** E1

**INDOOR UNIT**

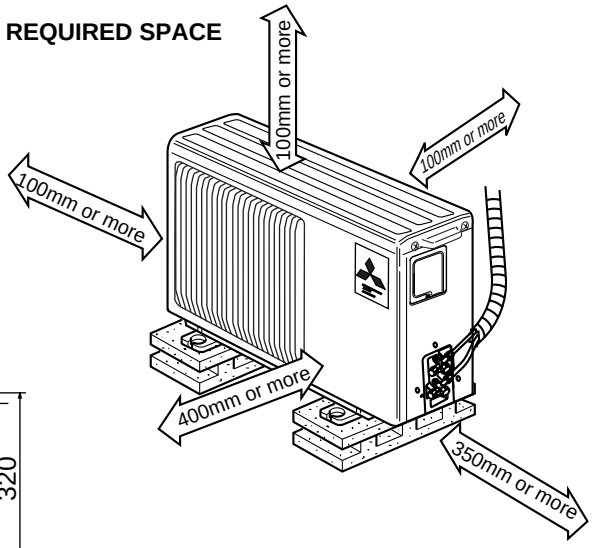


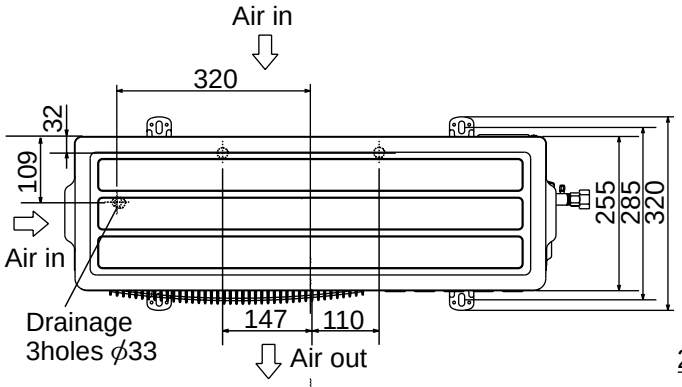
Unit: mm

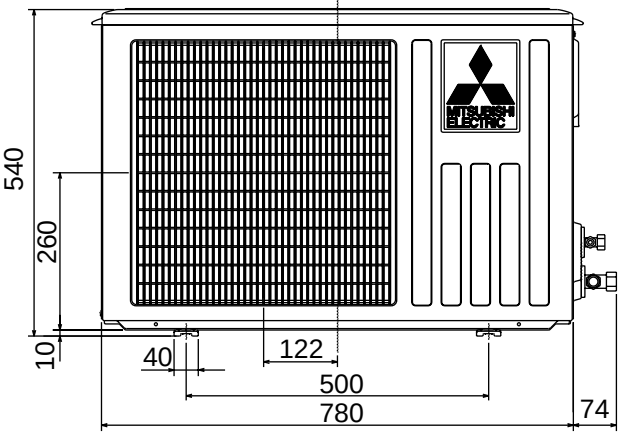
**MU-A07WV -E1 MUH-A07WV -E1**
**MU-A09WV -E1 MUH-A09WV -E1**
**MU-A12WV -E1 MUH-A12WV -E1**

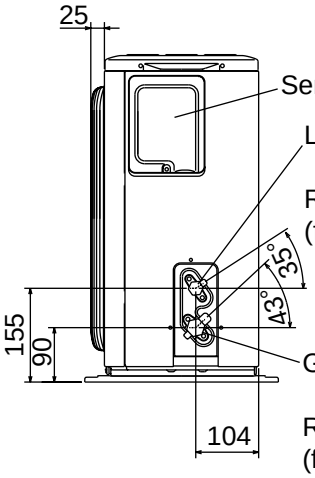
## OUTDOOR UNIT

**REQUIRED SPACE**




Service panel

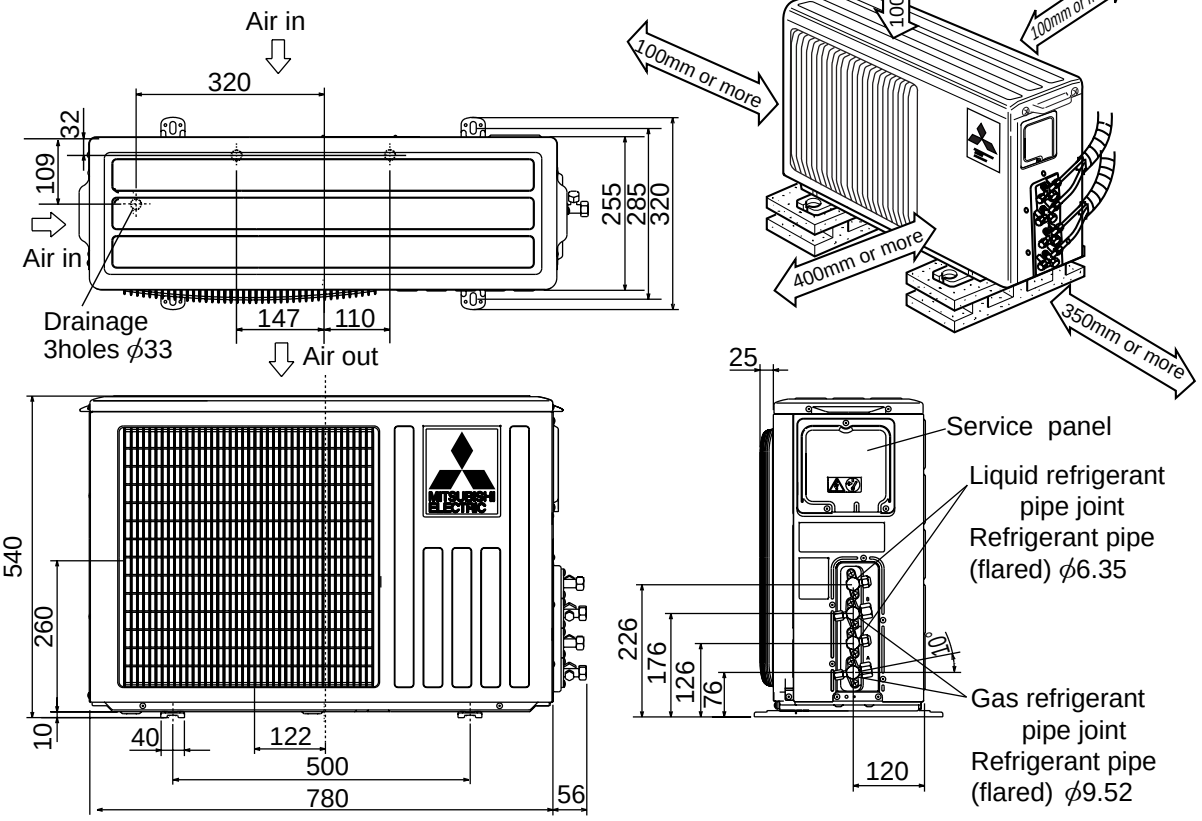
Liquid refrigerant pipe joint
Refrigerant pipe (flared) ϕ6.35

Gas refrigerant pipe joint
Refrigerant pipe (flared) ϕ9.52 (MU-A07/A09WV) (MUH-A07/A09WV)
ϕ12.7 (MU-A12WV) (MUH-A12WV)

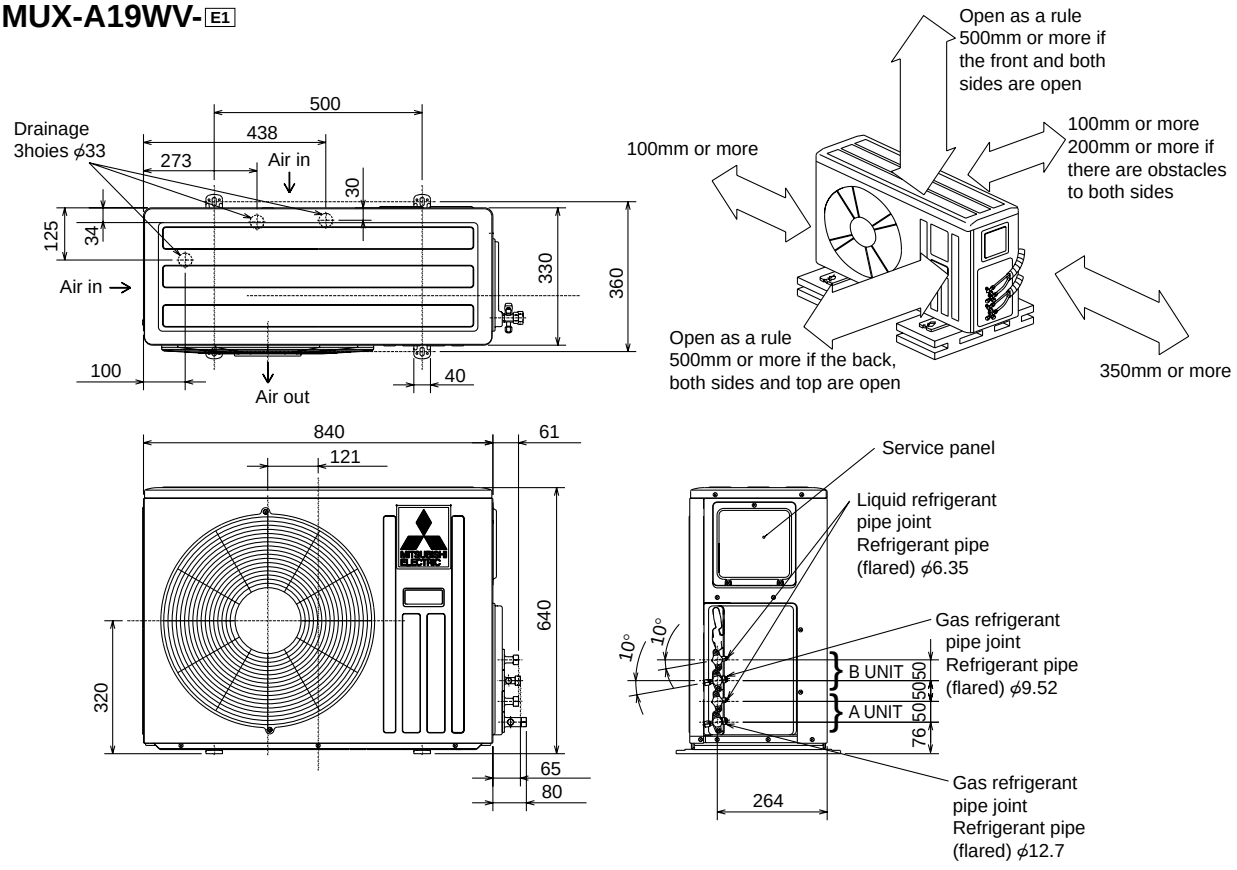
## OUTDOOR UNIT

Unit: mm

### MUX-A10WV-E1



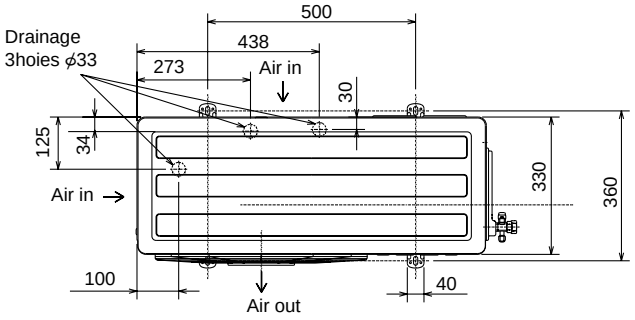

### MUX-A19WV-E1

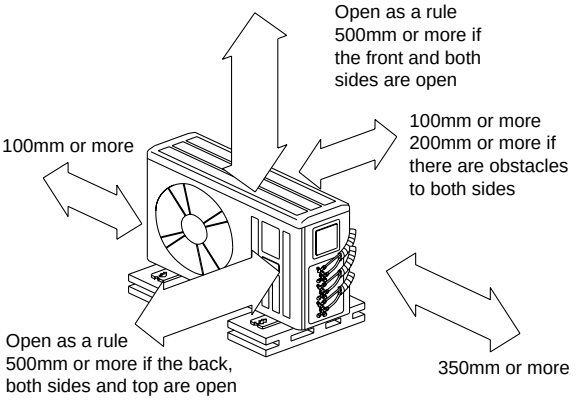


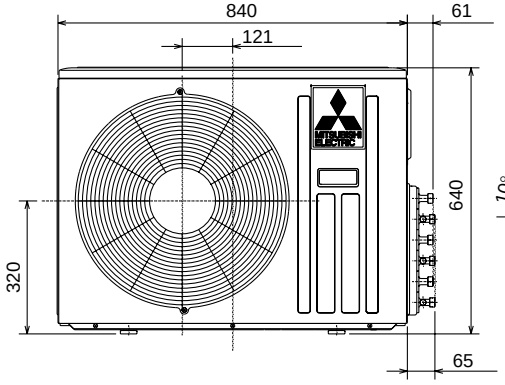
## OUTDOOR UNIT

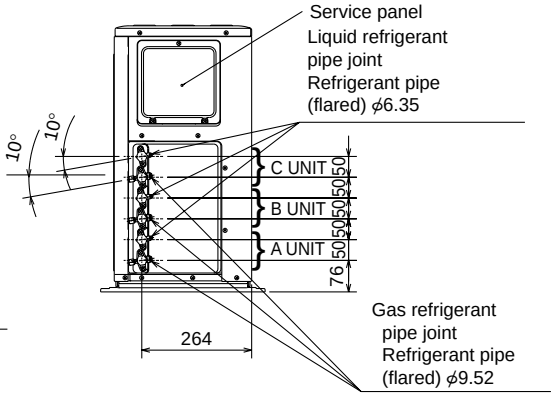
Unit: mm

### MUX-A20WV-E1

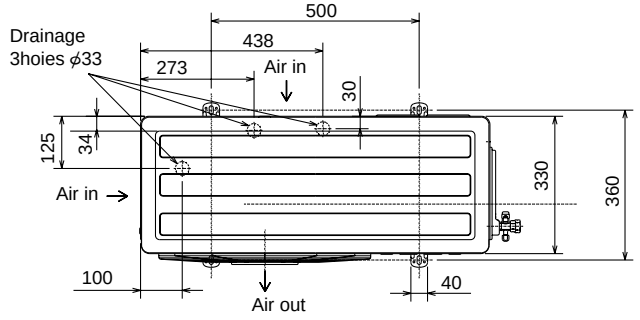


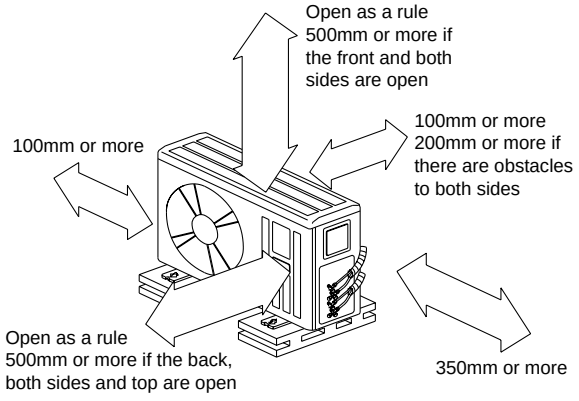



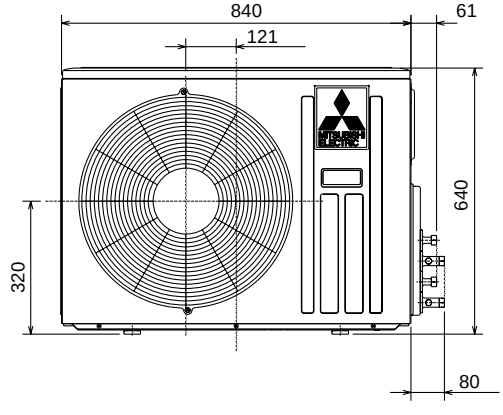



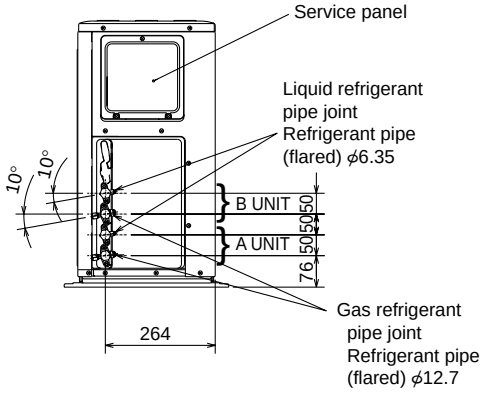




### MUX-A25WV-E1



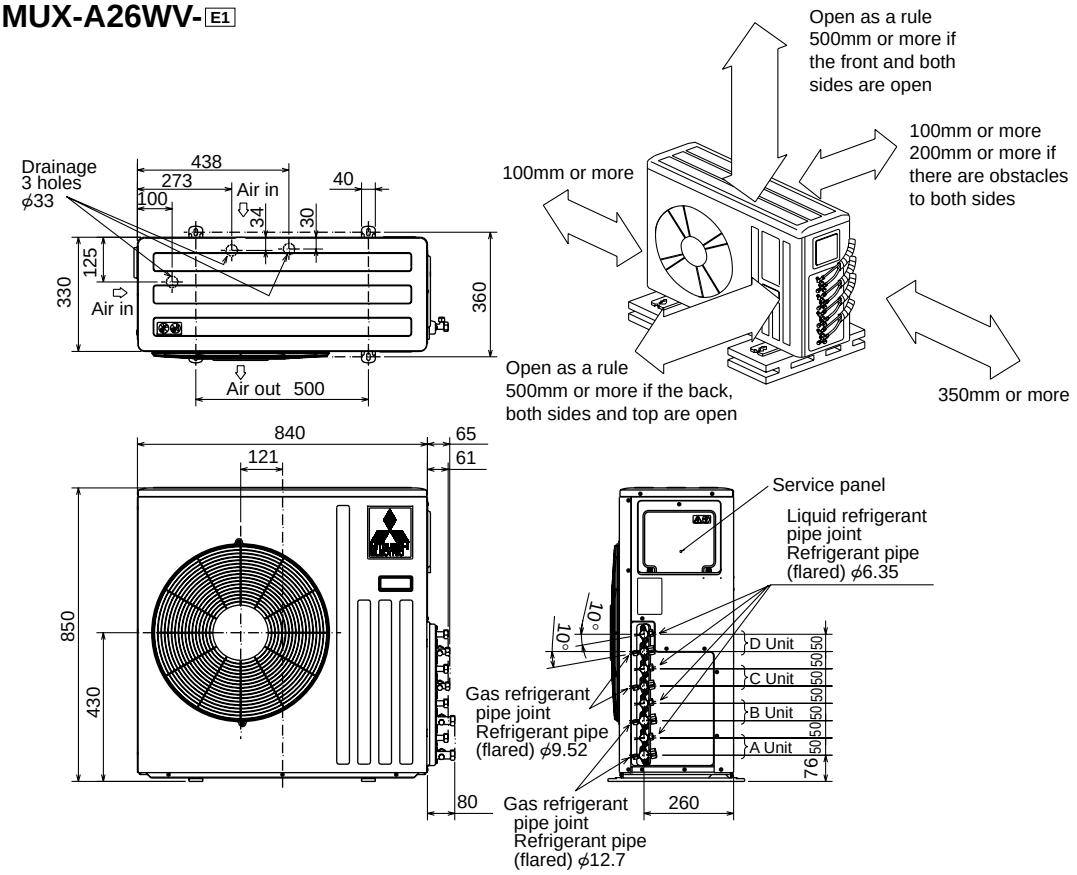



## OUTDOOR UNIT

Unit: mm

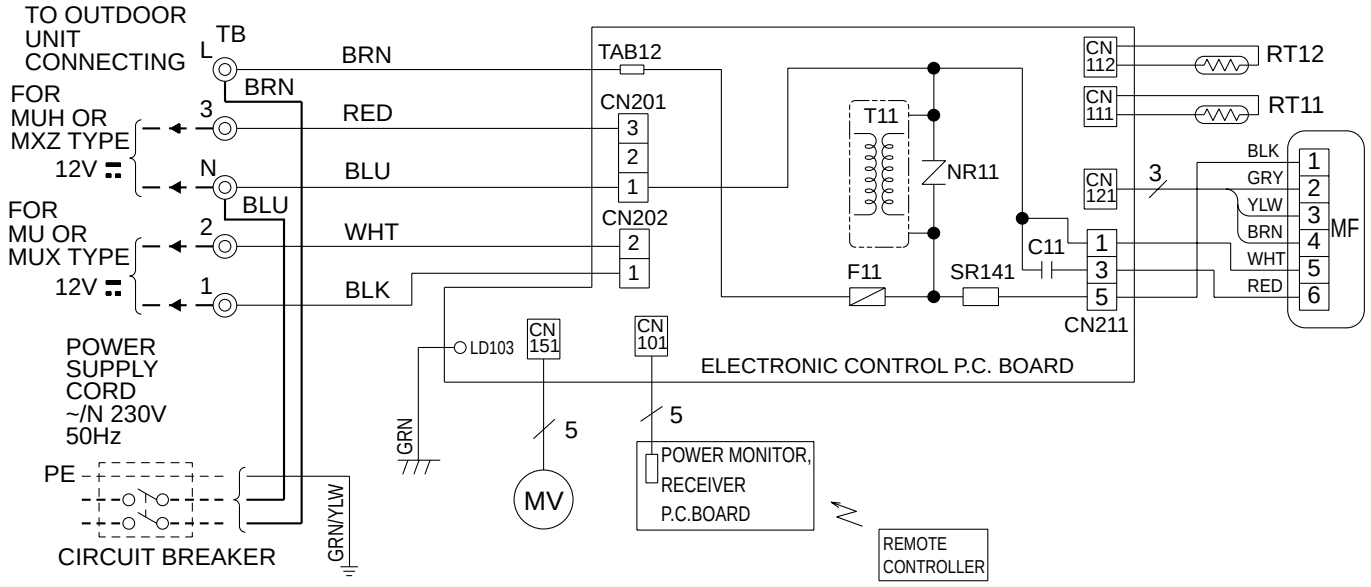
### MUX-A26WV-E1



# 7 WIRING DIAGRAM

**MSC-A07WV -** E1
**MSC-A09WV -** E1
**MSC-A12WV -** E1 MODELS WIRING DIAGRAM

## INDOOR UNIT




| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| C11 | INDOOR FAN CAPACITOR | NR11 | VARISTOR | TB | TERMINAL BLOCK |
| F11 | FUSE(3.15A) | RT11 | ROOM TEMPERATURE THERMISTOR | T11 | TRANSFORMER |
| MF | INDOOR FAN MOTOR (INNER FUSE) | RT12 | INDOOR COIL THERMISTOR | | |
| MV | VANE MOTOR | SR141 | SOLID STATE RELAY | | |

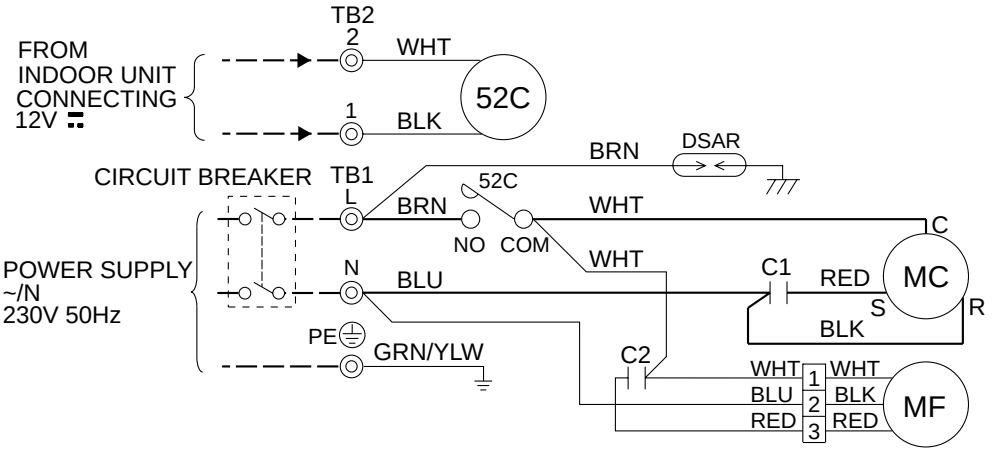
NOTE:1. About the outdoor side electric wiring refer to the outdoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□□: Connector

SG79J617H01

**MU-A07WV -E1**
**MU-A09WV -E1**
**MU-A12WV -E1**

## MODELS WIRING DIAGRAM

**OUTDOOR UNIT**




| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| C1 | COMPRESSOR CAPACITOR | MC | COMPRESSOR(INNER PROTECTOR) | 52C | CONTACTOR |
| C2 | OUTDOOR FAN CAPACITOR | MF | OUTDOOR FAN MOTOR(INNER FUSE) | | |
| DSAR | SURGE ABSORBER | TB1,TB2 | TERMINAL BLOCK | | |

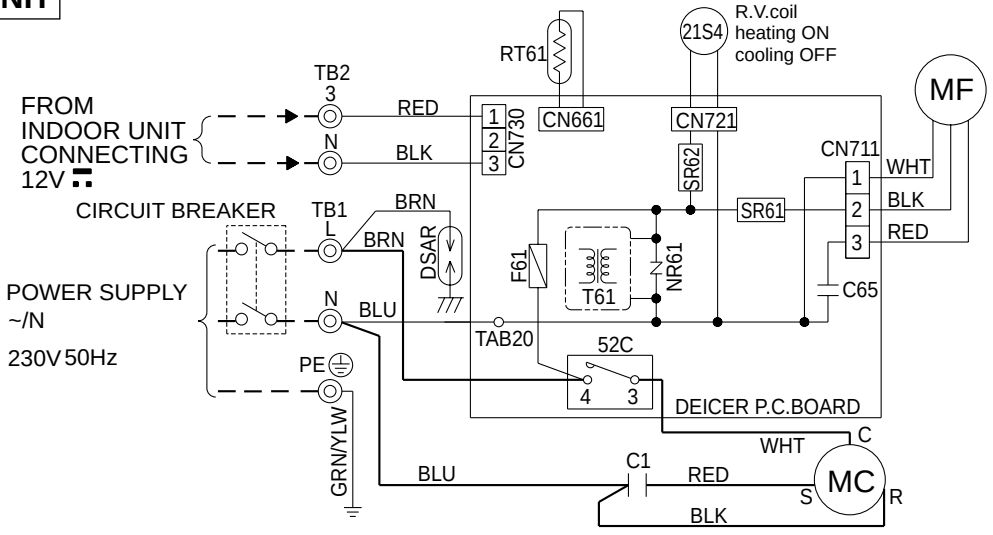
NOTE:1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□□: Connector

VG79B194H02

**MUH-A07WV -E1**
**MUH-A09WV -E1**
**MUH-A12WV -E1**

## MODELS WIRING DIAGRAM

**OUTDOOR UNIT**




| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| C1 | COMPRESSOR CAPACITOR | MF | OUTDOOR FAN MOTOR(INNER FUSE) | TB1,TB2 | TERMINAL BLOCK |
| C65 | OUTDOOR FAN CAPACITOR | NR61 | VARISTOR | 21S4 | R.V. COIL |
| DSAR | SURGE ABSORBER | RT61 | DEFROST THERMISTOR | 52C | COMPRESSOR CONTACTOR |
| F61 | FUSE(2A) | SR61,SR62 | SOLID STATE RELAY | | |
| MC | COMPRESSOR(INNER PROTECTOR) | T61 | TRANS FORMER | | |

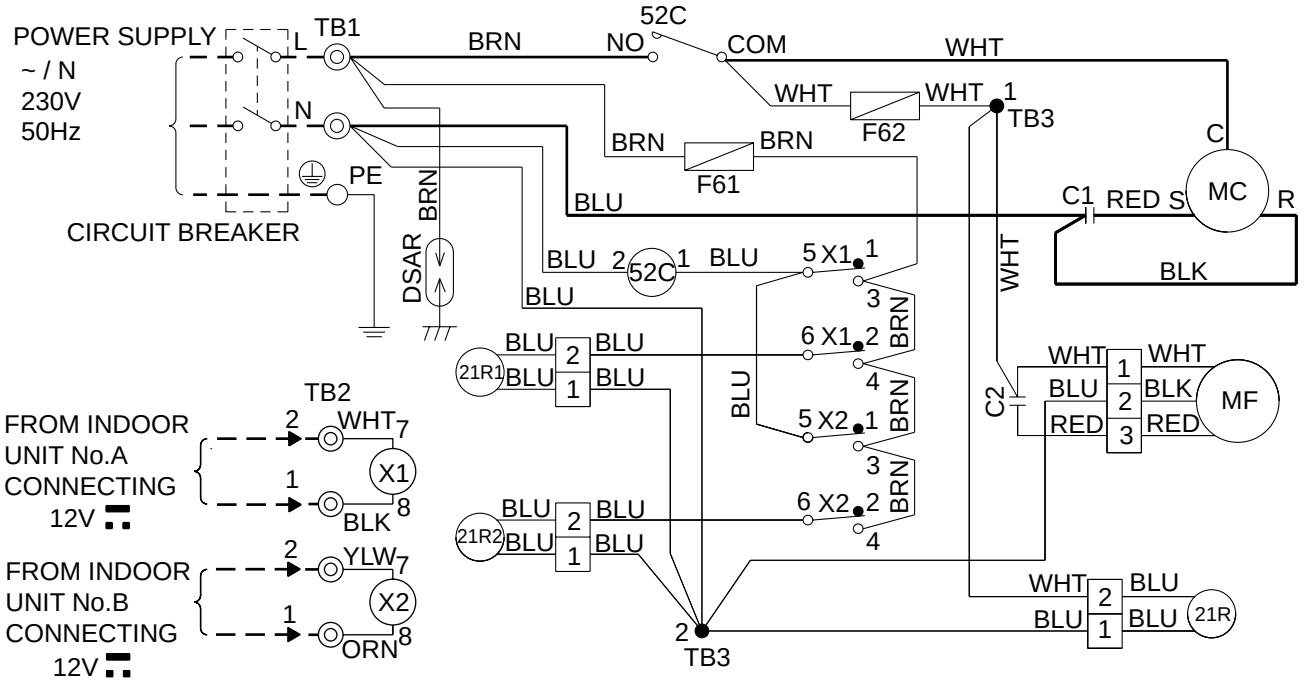
NOTE:1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□□: Connector

VG79B195H02

**MUX-A10WV -** E1

**OUTDOOR UNIT**

MODEL WIRING DIAGRAM




| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| C1 | COMPRESSOR CAPACITOR | MF | OUTDOOR FAN MOTOR(INNER FUSE) | 21R1 | SOLENOID COIL(A) |
| C2 | OUTDOOR FAN CAPACITOR | TB1,TB2,TB3 | TERMINAL BLOCK | 21R2 | SOLENOID COIL(B) |
| DSAR | SURGE ABSORBER | X1 | RELAY(A) | 52C | COMPRESSOR CONTACTOR |
| F61,F62 | FUSE(2A) | X2 | RELAY(B) | | |
| MC | COMPRESSOR(INNER PROTECTOR) | 21R | SOLENOID COIL | | |

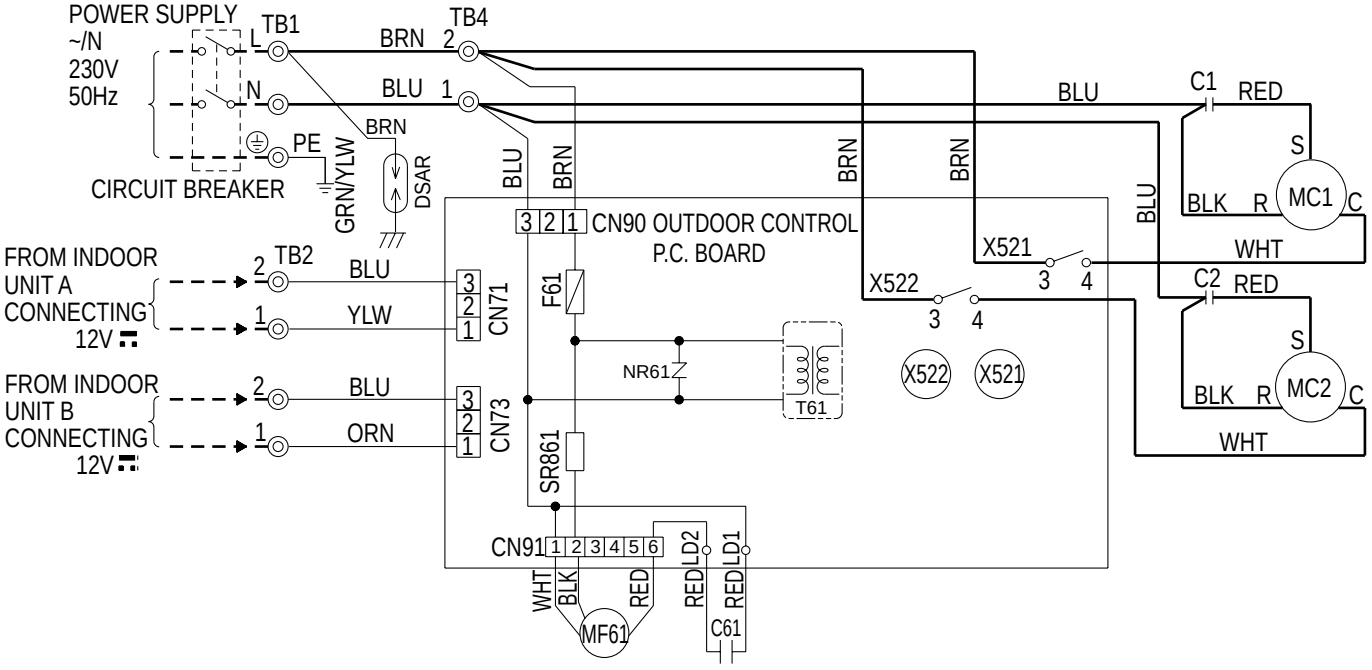
NOTE:1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□□: Connector

VG79B203H01

**MUX-A19WV -E1**
**MUX-A25WV -E1**

## MODELS WIRING DIAGRAM

### OUTDOOR UNIT




| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| C1 | COMPRESSOR CAPACITOR(MC1) | MC1 | COMPRESSOR(INNER PROTECTOR) | TB1 | TERMINAL BLOCK |
| C2 | COMPRESSOR CAPACITOR(MC2) | MC2 | COMPRESSOR(INNER PROTECTOR) | TB2~TB4 | TERMINAL BLOCK |
| C61 | OUTDOOR FAN CAPACITOR | MF61 | OUTDOOR FAN MOTOR (INNER PROTECTOR) | T61 | TRANSFORMER |
| DSAR | SURGE ABSORBER | NR61 | SURGE ABSORBER | X521 | COMPRESSOR CONTACTOR(MC1) |
| F61 | FUSE(3.15A) | SR861 | OUTDOOR FAN RELAY | X522 | COMPRESSOR CONTACTOR(MC2) |

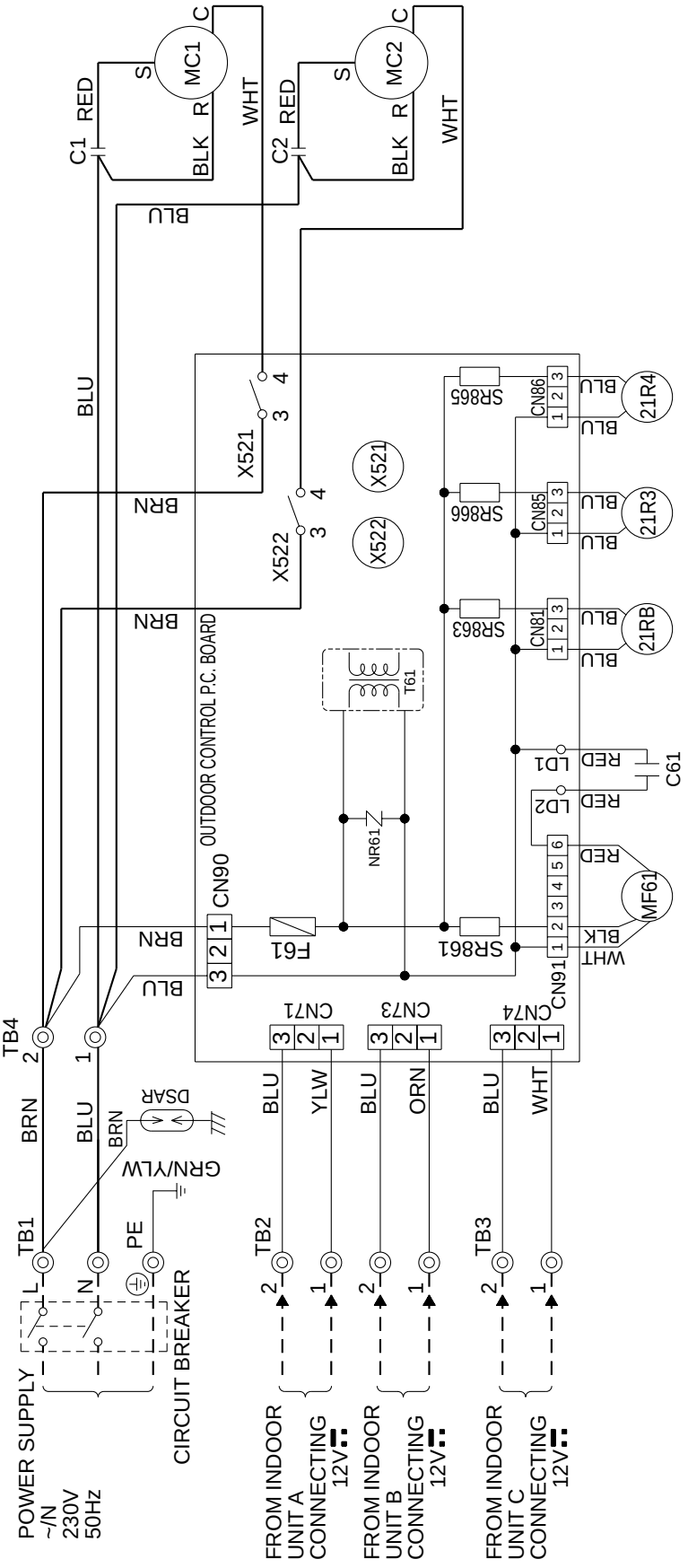
NOTE:1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□□: Connector

VG79B200H02

**MUX-A20WV -** E1

**OUTDOOR UNIT**

MODEL WIRING DIAGRAM




| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| C1 | COMPRESSOR CAPACITOR(MC1) | MF61 | OUTDOOR FAN MOTOR(INNER PROTECTOR) | TB2~TB4 | TERMINAL BLOCK |
| C2 | COMPRESSOR CAPACITOR(MC2) | NR61 | SURGE ABSORBER | T61 | TRANS FORMER |
| C61 | OUTDOOR FAN CAPACITOR | SR861 | OUTDOOR FAN RELAY | X521 | COMPRESSOR CONTACTOR(MC1) |
| DSAR | SURGE ABSORBER | SR863 | RELAY (21RB) | X522 | COMPRESSOR CONTACTOR(MC2) |
| F61 | FUSE(3.15A) | SR865 | RELAY (C) (21R4) | 21RB | SOLENOID COIL |
| MC1 | COMPRESSOR(INNER PROTECTOR) | SR866 | RELAY (B) (21R3) | 21R3 | SOLENOID COIL (B) |
| MC2 | COMPRESSOR(INNER PROTECTOR) | TB1 | TERMINAL BLOCK | 21R4 | SOLENOID COIL (C) |

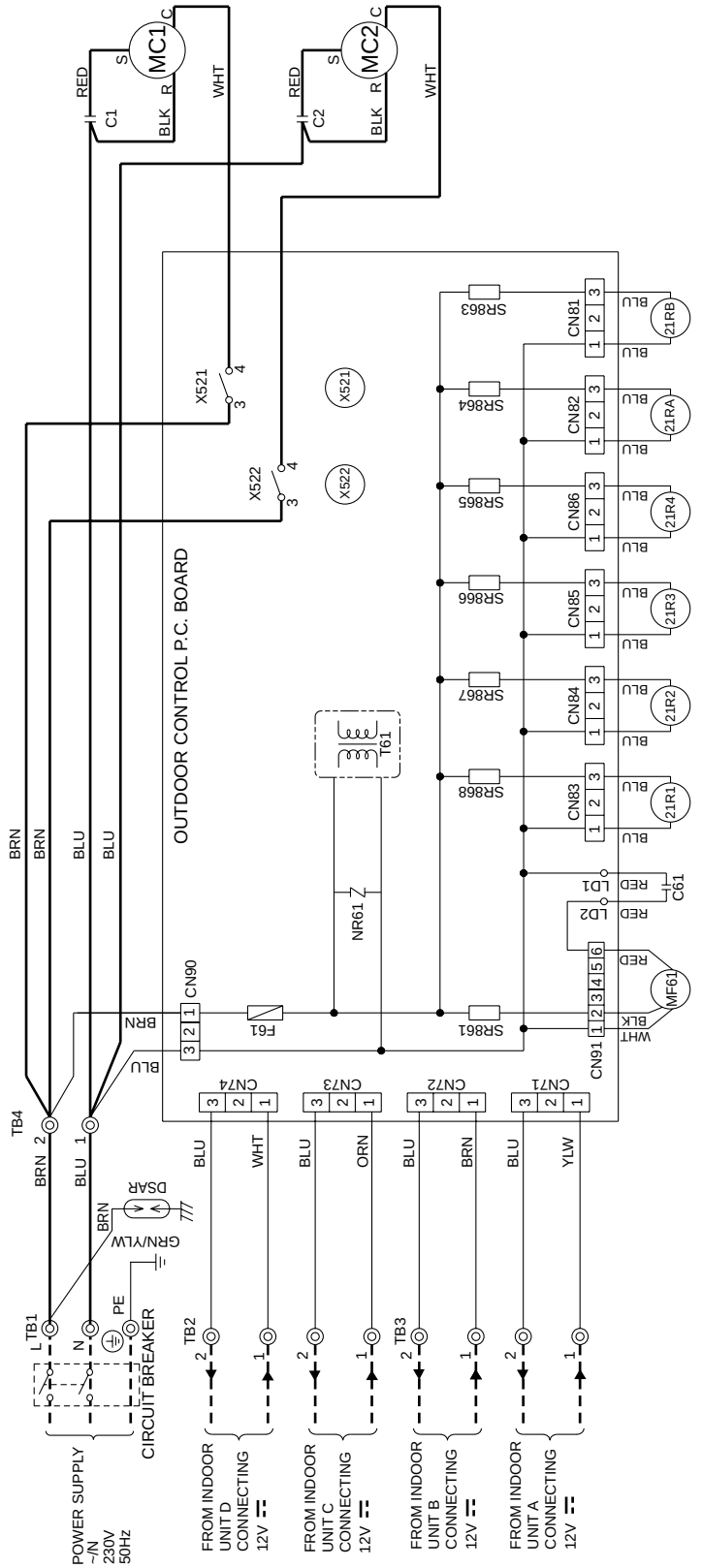
NOTE:1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□ : Connector

VG79B201H02

## MUX-A26WV -E1

## OUTDOOR UNIT

MODEL WIRING DIAGRAM




| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| C1 | COMPRESSOR CAPACITOR(MC1) | SR861 | OUTDOOR FAN RELAY | X521 | COMPRESSOR CONTACTOR(MC1) |
| C2 | COMPRESSOR CAPACITOR(MC2) | SR863 | RELAY (21RB) | X522 | COMPRESSOR CONTACTOR(MC2) |
| C61 | OUTDOOR FAN CAPACITOR | SR864 | RELAY (21RA) | 21RA | SOLENOID COIL (BALANCE) |
| DSAR | SURGE ABSORBER | SR865 | RELAY (D) (21R4) | 21RB | SOLENOID COIL (BALANCE) |
| F61 | FUSE(3.15A) | SR866 | RELAY (C) (21R3) | 21R1 | SOLENOID COIL (A) |
| MC1 | COMPRESSOR(INNER PROTECTOR) | SR867 | RELAY (B) (21R2) | 21R2 | SOLENOID COIL (B) |
| MC2 | COMPRESSOR(INNER PROTECTOR) | SR868 | RELAY (A) (21R1) | 21R3 | SOLENOID COIL (C) |
| MF61 | OUTDOOR FAN MOTOR(INNER PROTECTOR) | TB1~TB4 | TERMINAL BLOCK | 21R4 | SOLENOID COIL (D) |
| NR61 | SURGE ABSORBER | T61 | TRANS FORMER | | |

NOTE:1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□ : Connector

VG79B198H03

# 8 REFRIGERANT SYSTEM DIAGRAM

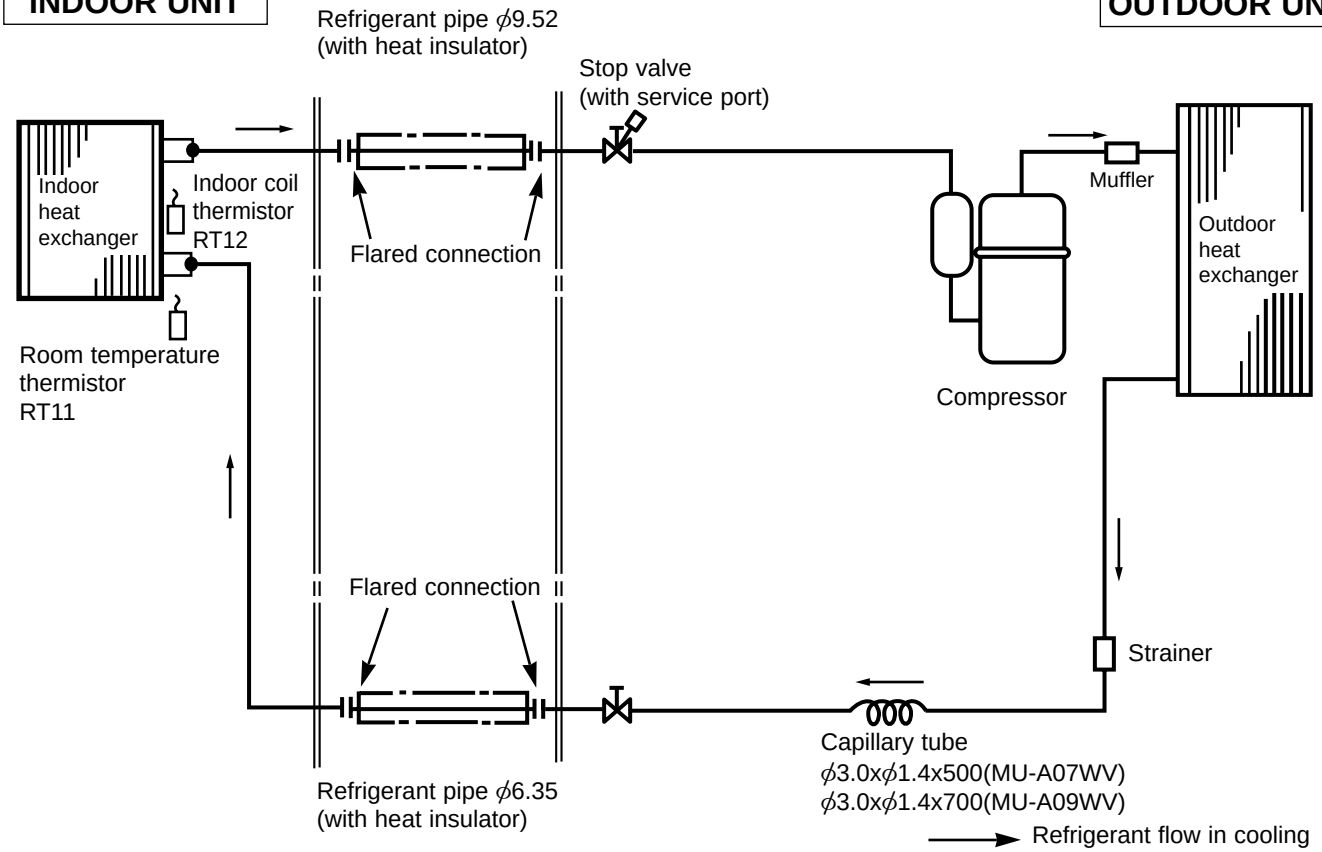
Unit:mm

**MSC-A07WV -** E1
**MSC-A09WV -** E1

**INDOOR UNIT**

**MU-A07WV -** E1
**MU-A09WV -** E1

**OUTDOOR UNIT**



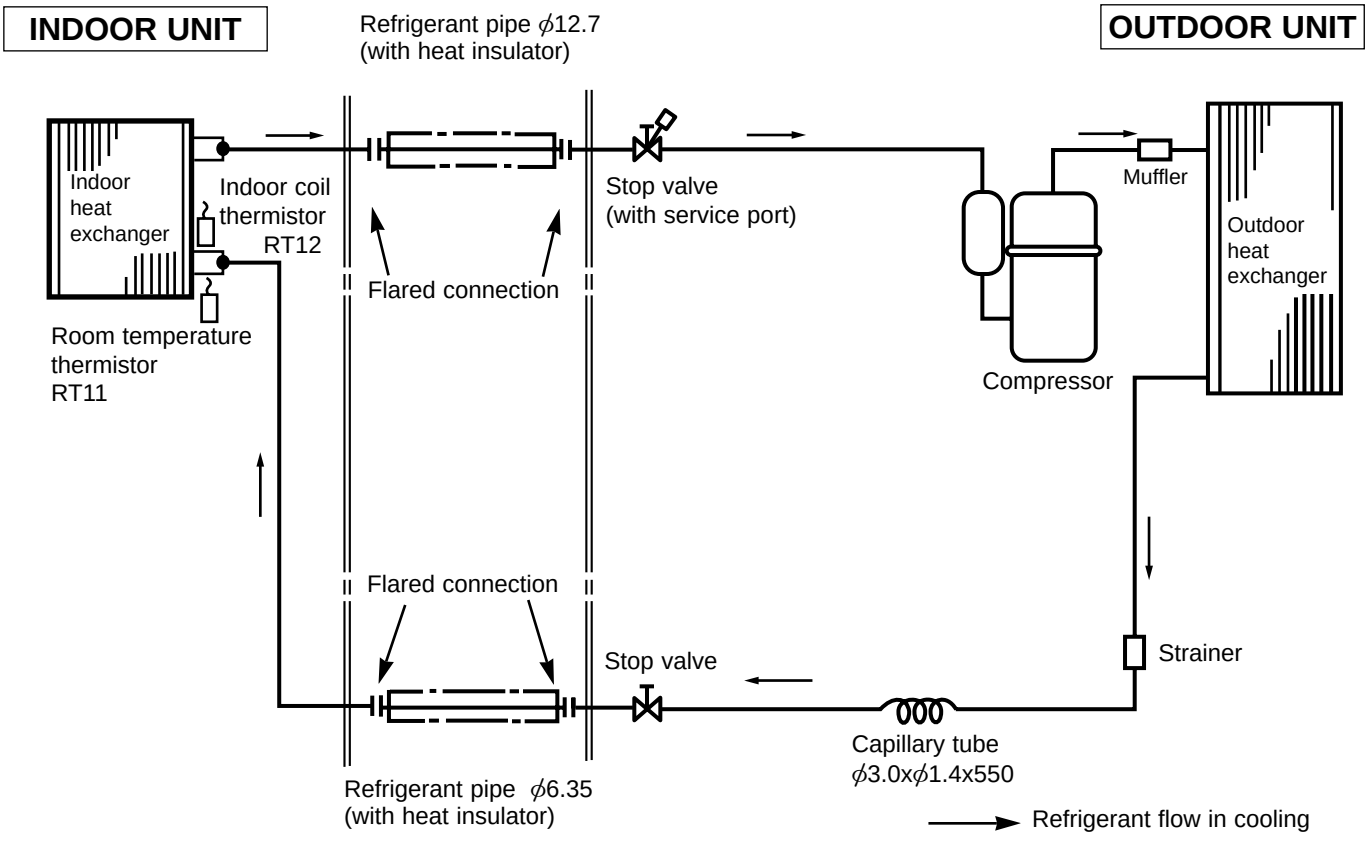

Unit:mm

**MSC-A12WV -** E1

**INDOOR UNIT**

**MU-A12WV -** E1

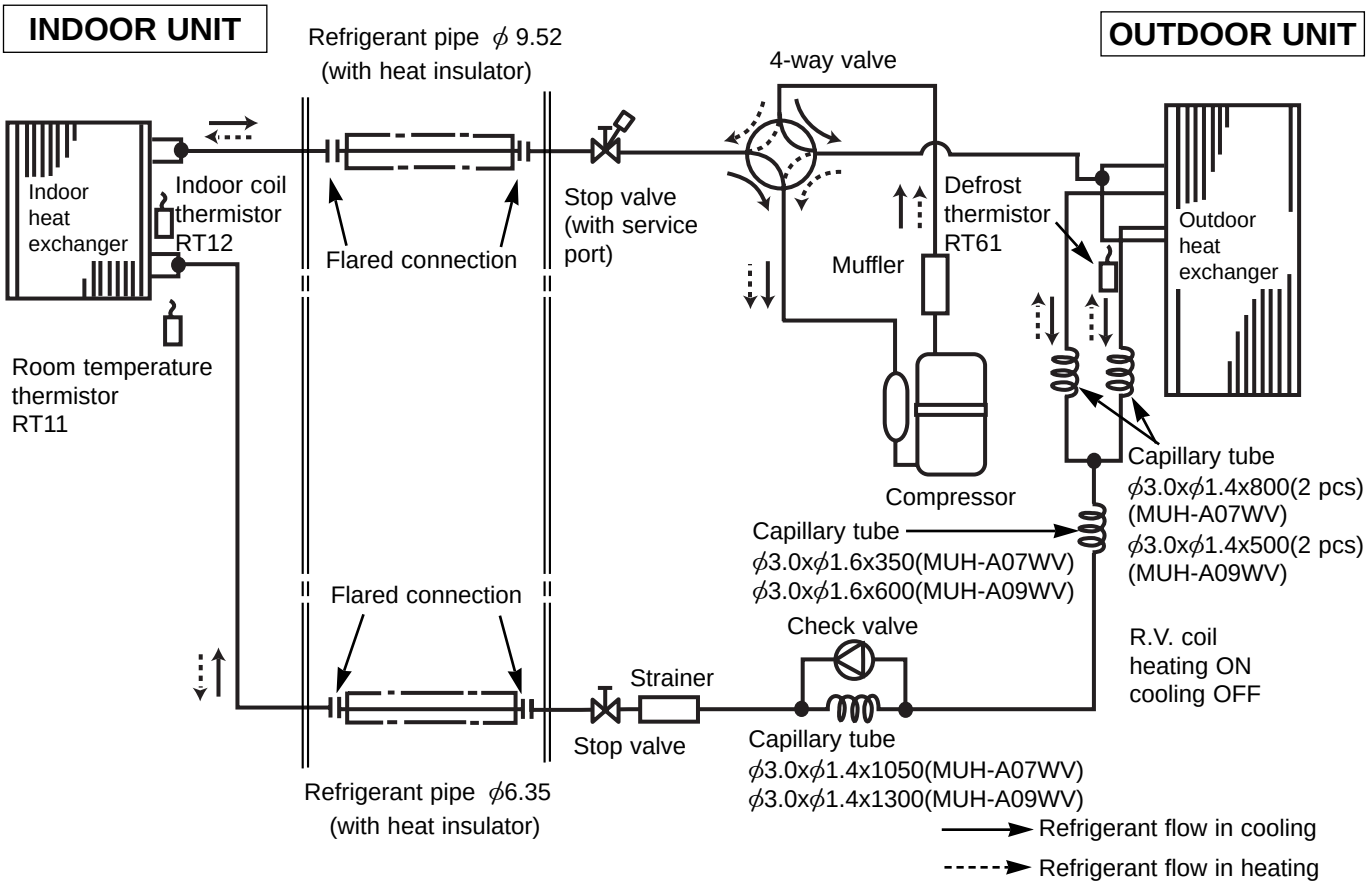
**OUTDOOR UNIT**



Unit:mm

**MSC-A07WV -E1**
**MSC-A09WV -E1**
**INDOOR UNIT**

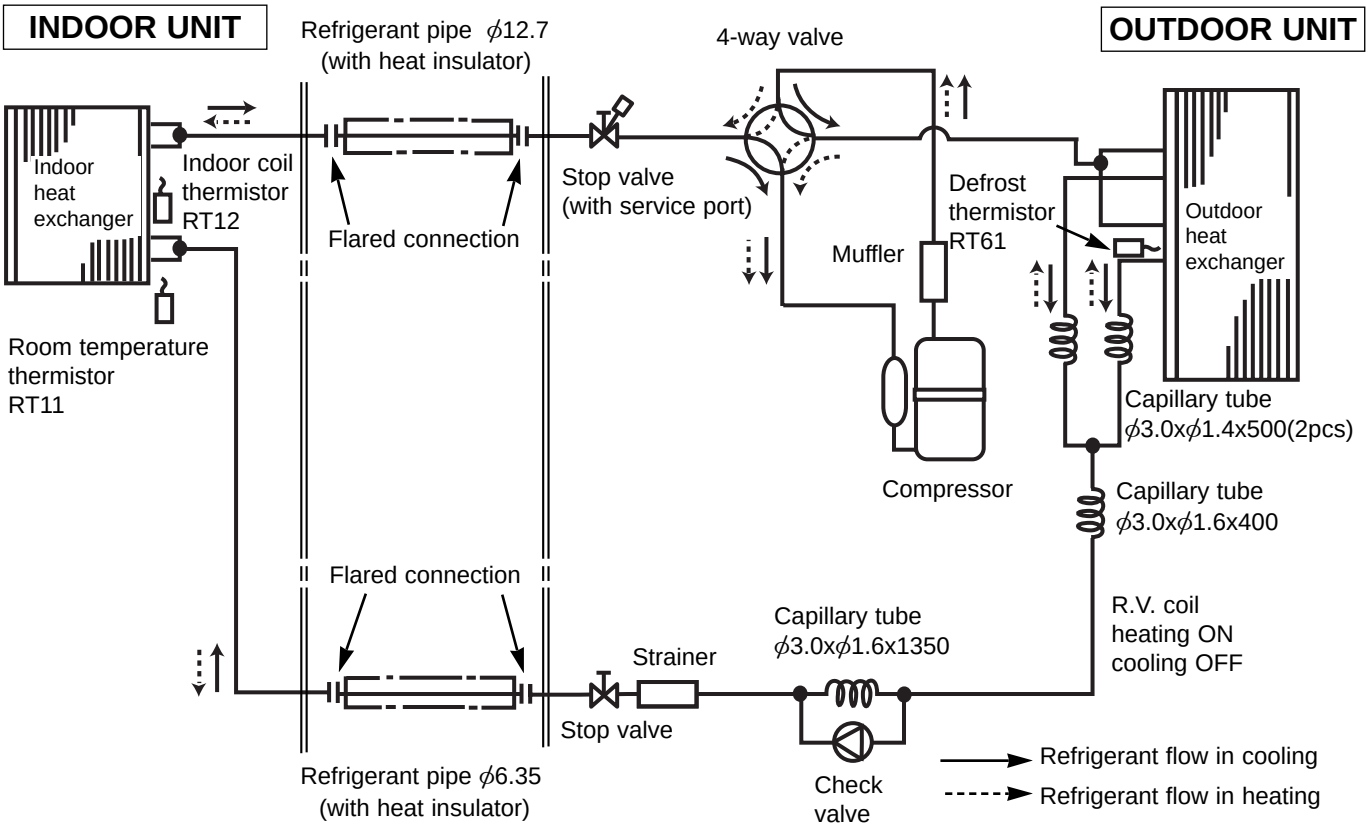
**MUH-A07WV -E1**
**MUH-A09WV -E1**
**OUTDOOR UNIT**




Unit:mm

**MSC-A12WV -E1**
**INDOOR UNIT**

**MUH-A12WV -E1**
**OUTDOOR UNIT**



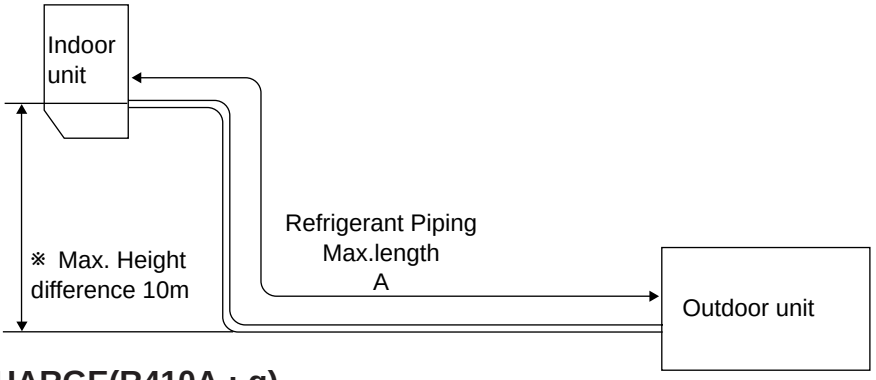
## MAX. REFRIGERANT PIPING LENGTH

| Model | Refrigerant piping Max. length : m A | Piping size O.D : mm | | Length of connecting pipe : m | |
|---|---|---|---|---|---|
| | | Gas | Liquid | Indoor unit | Outdoor unit |
| MSC-A07WV - E1<br>MU-A07WV - E1 | 20 | 9.52 | 6.35 | Gas 0.43<br>Liquid 0.5 | Gas 0<br>Liquid 0 |
| MSC-A09WV - E1<br>MU-A09WV - E1 | | | | | |
| MSC-A12WV - E1<br>MU-A12WV - E1 | 25 | 12.7 | | | |

| Model | Refrigerant piping Max. length : m A | Piping size O.D : mm | | Length of connecting pipe : m | |
|---|---|---|---|---|---|
| | | Gas | Liquid | Indoor unit | Outdoor unit |
| MSC-A07WV - E1<br>MUH-A07WV - E1 | 20 | 9.52 | 6.35 | Gas 0.43<br>Liquid 0.5 | Gas 0<br>Liquid 0 |
| MSC-A09WV - E1<br>MUH-A09WV - E1 | | | | | |
| MSC-A12WV - E1<br>MUH-A12WV - E1 | 25 | 12.7 | | | |

## MAX. HEIGHT DIFFERENCE

Height difference should be within 10m regardless of which unit, indoor or outdoor position is high.




## ADDITIONAL REFRIGERANT CHARGE(R410A : g)

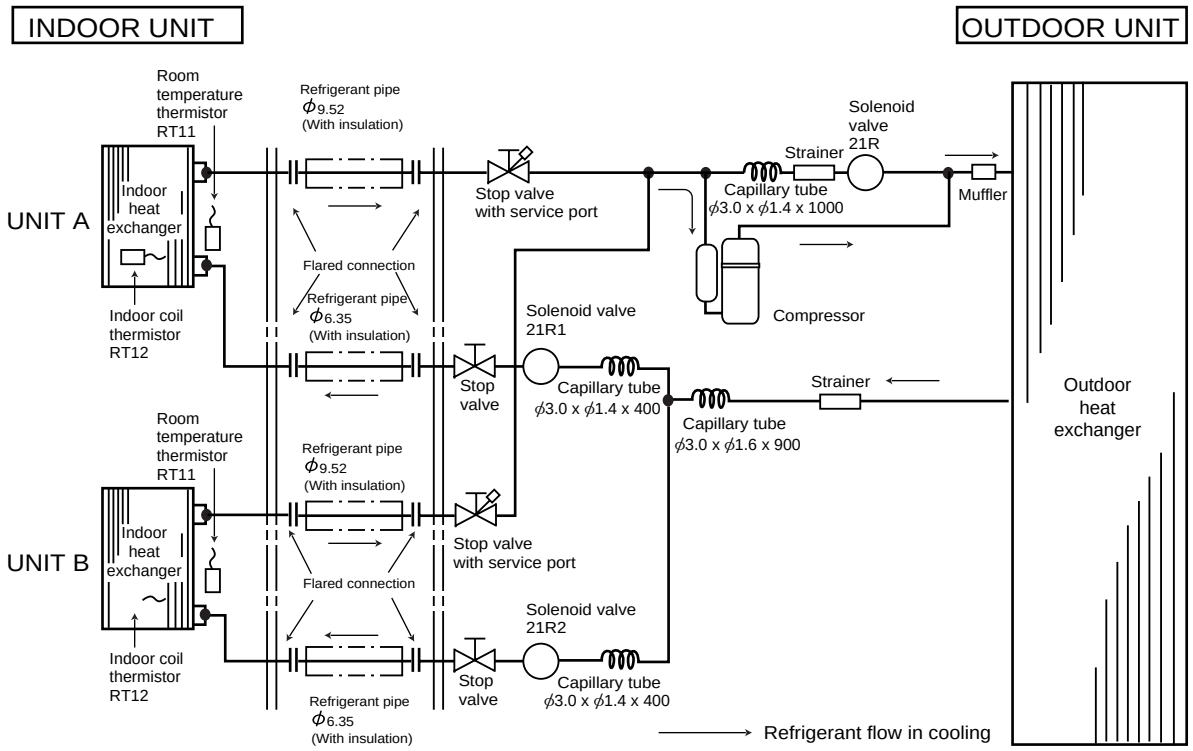
| Model | Outdoor unit precharged | Refrigerant piping length (one way) | | | | |
|---|---|---|---|---|---|---|
| | | 7m | 10m | 15m | 20m | 25m |
| MSC-A07WV - E1<br>MU-A07WV - E1 | 750 | 0 | 60 | 160 | 260 | |
| MSC-A09WV - E1<br>MU-A09WV - E1 | 800 | | | | | |
| MSC-A12WV - E1<br>MU-A12WV - E1 | 830 | | | | | 360 |

Calculation : Xg=20g/m x(A-7)m

| Model | Outdoor unit precharged | Refrigerant piping length (one way) | | | | |
|---|---|---|---|---|---|---|
| | | 7m | 10m | 15m | 20m | 25m |
| MSC-A07WV - E1<br>MUH-A07WV - E1 | 750 | 0 | 60 | 160 | 260 | |
| MSC-A09WV - E1<br>MUH-A09WV - E1 | 1100 | | | | | |
| MSC-A12WV - E1<br>MUH-A12WV - E1 | 1150 | | | | | 360 |

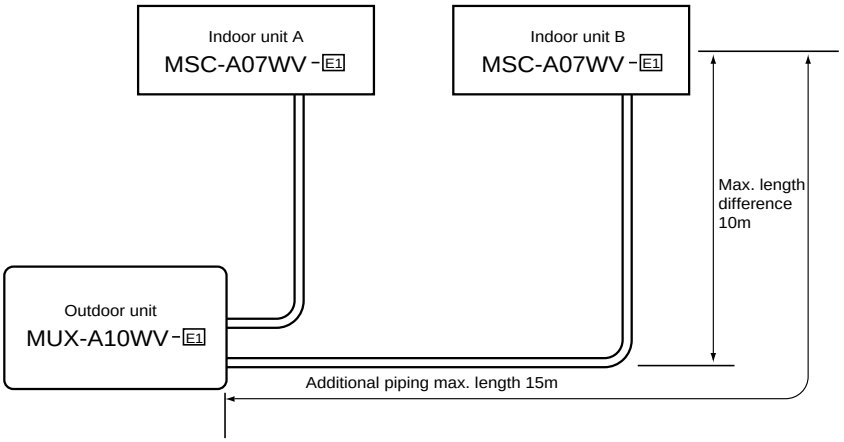
Calculation : Xg=20g/m 5 x(A-7)m

**MSC-A07WV-E1** **MUX-A10WV-E1** **Unit : mm**




**MSX-A10WV-E1**

## MAX. REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE




## ADDITIONAL REFRIGERANT CHARGE (R410A:g)

| UNIT No. | Outdoor unit precharged | Refrigerant piping length (one way) | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 m | 11 m | 12 m | 13 m | 14 m | 15 m | 16 m | 17 m | 18 m | 19 m | 20 m | 21 m | 22 m | 23 m | 24 m | 25 m | 26 m | 27 m | 28 m | 29 m | 30 m |
| A unit + B unit | 1000g | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |

## PIPING PREPARATION

① Table below shows the specifications of pipes commercially available.

| UNIT No. | Pipe | Outside diameter mm | Insulation thickness | Insulation material |
|---|---|---|---|---|
| A and B UNIT | For liquid | 6.35 | 8 mm | Heat resisting foam plastic |
| | For gas | 9.52 | 8 mm | 0.045 specific gravity |

② Ensure that the 2 refrigerant pipes are well insulated to prevent condensation.
③ Refrigerant bending radius must be 10cm or more.

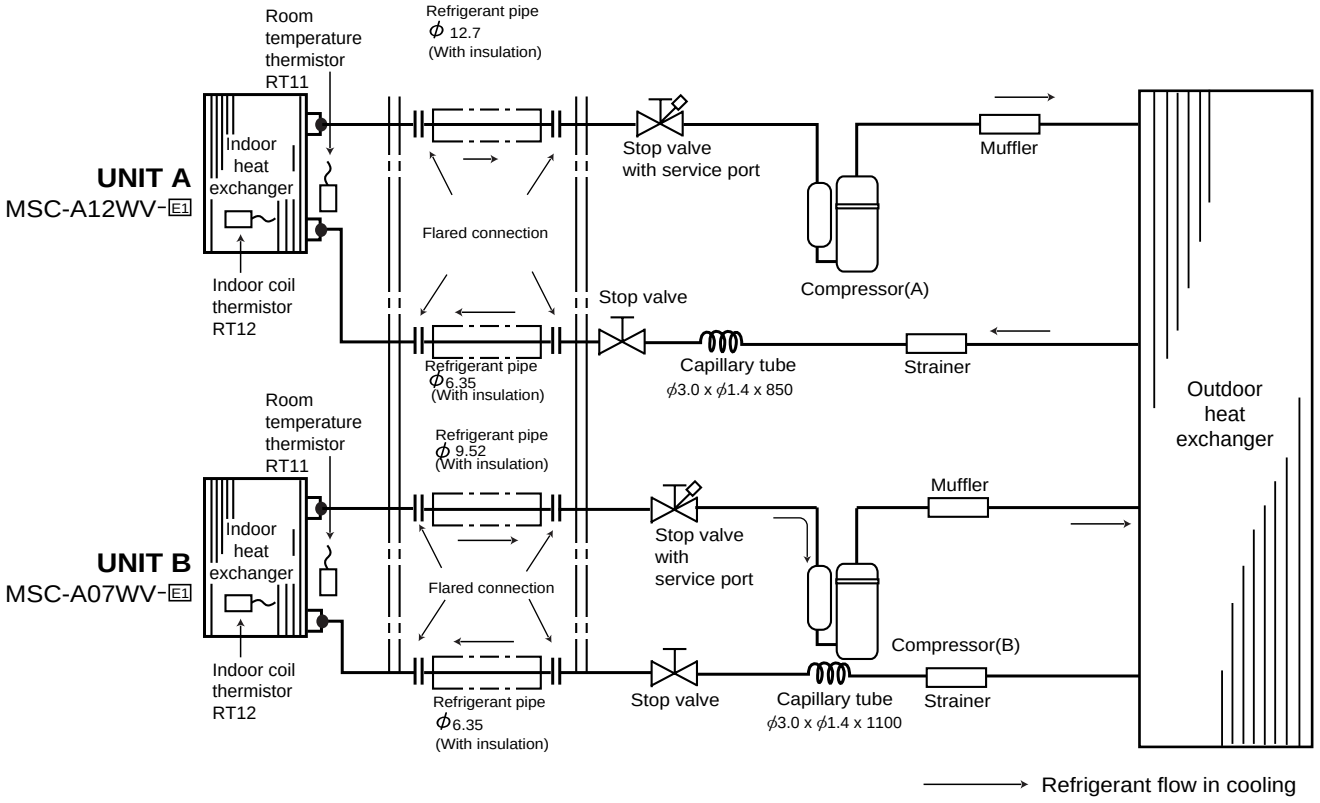
Unit : mm

**MSC-A07WV-E1**
**MSC-A12WV-E1**

**INDOOR UNIT**

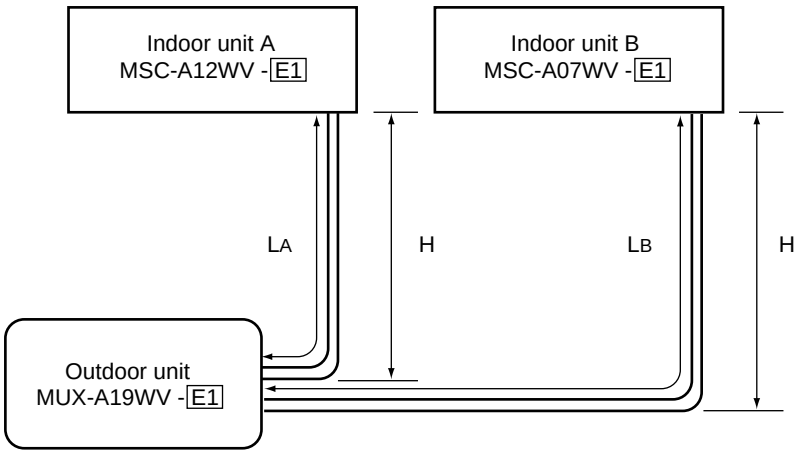
**MUX-A19WV-E1**

**OUTDOOR UNIT**



## MSX-A19WV-E1

### MAX.REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE




| | UNIT No. | Pipe length | | Height difference (H) | No. of bends |
|---|---|---|---|---|---|
| Max. limits | A | LA | 15m | 10m | 10 |
| | B | LB | 15m | 10m | 10 |

## ADDITIONAL REFRIGERANT CHARGE (R410A:g)

| | | Refrigerant piping length (one way) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A unit | Outdoor unit precharged | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m |
| | 1000g | 0 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 |
| | | Refrigerant piping length (one way,2 unit total) | | | | | | | | |
| B unit | Outdoor unit precharged | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m |
| | 800g | 0 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 |

## PIPING PREPARATION

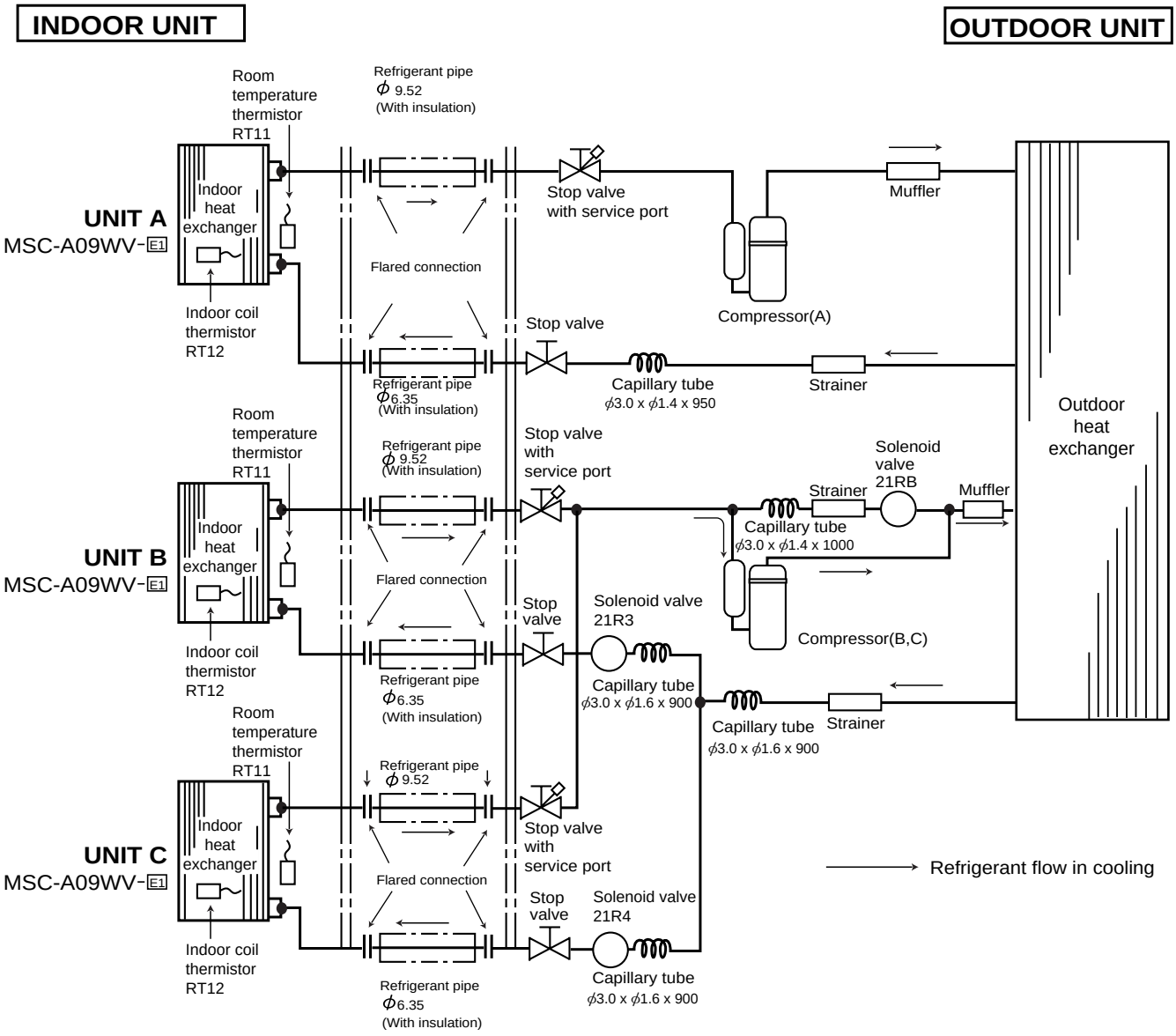
①Table below shows the specifications of pipes commercially available.

| UNIT No. | Pipe | Outside diameter | Insulation thickness | Insulation material |
|---|---|---|---|---|
| | | mm | | |
| A unit | For liquid | 6.35 | 8mm | Heat resisting foam plastic 0.045 specific gravity |
| | For gas | 12.7 | 8mm | |
| B unit | For liquid | 6.35 | 8mm | |
| | For gas | 9.52 | 8mm | |

②Ensure that the 2 refrigerant pipes are well insulated to prevent condensation.
③Refrigerant bending radius must be 10cm or more.

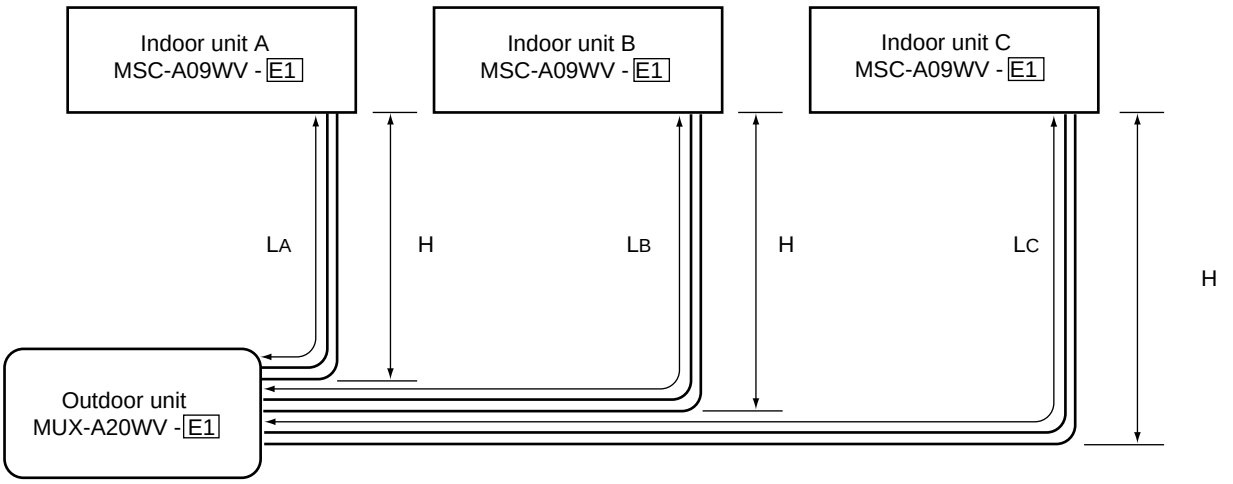
**Unit : mm**

**MSC-A09WV-E1** **MUX-A20WV-E1**



## MSX-A20WV-E1

### MAX.REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE




| | UNIT No. | Pipe length | | | | Height difference (H) | No. of bends | |
|---|---|---|---|---|---|---|---|---|
| Max. limits | A | LA | 15m | | | 10m | 10 | |
| | B | LB | 15m | LB + LC | Total 30m | 10m | 10 | Total 15 |
| | C | LC | 15m | | | 10m | 10 | |

## ADDITIONAL REFRIGERANT CHARGE (R410A:g)

| A unit | Outdoor unit precharged | Refrigerant piping length (one way) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m |
| | 800g | 0 | 20 | 40 | 50 | 80 | 100 | 120 | 140 | 160 |

| B unit + C unit | Outdoor unit precharged | Refrigerant piping length (one way,2 unit total) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10m | 11m | 12m | 13m | 14m | 15m | 16m | 17m | 18m | 19m | 20m | 21m | 22m | 23m | 24m | 25m | 26m | 27m | 28m | 29m | 30m |
| | 1000g | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |

## PIPING PREPARATION

①Table below shows the specifications of pipes commercially available.

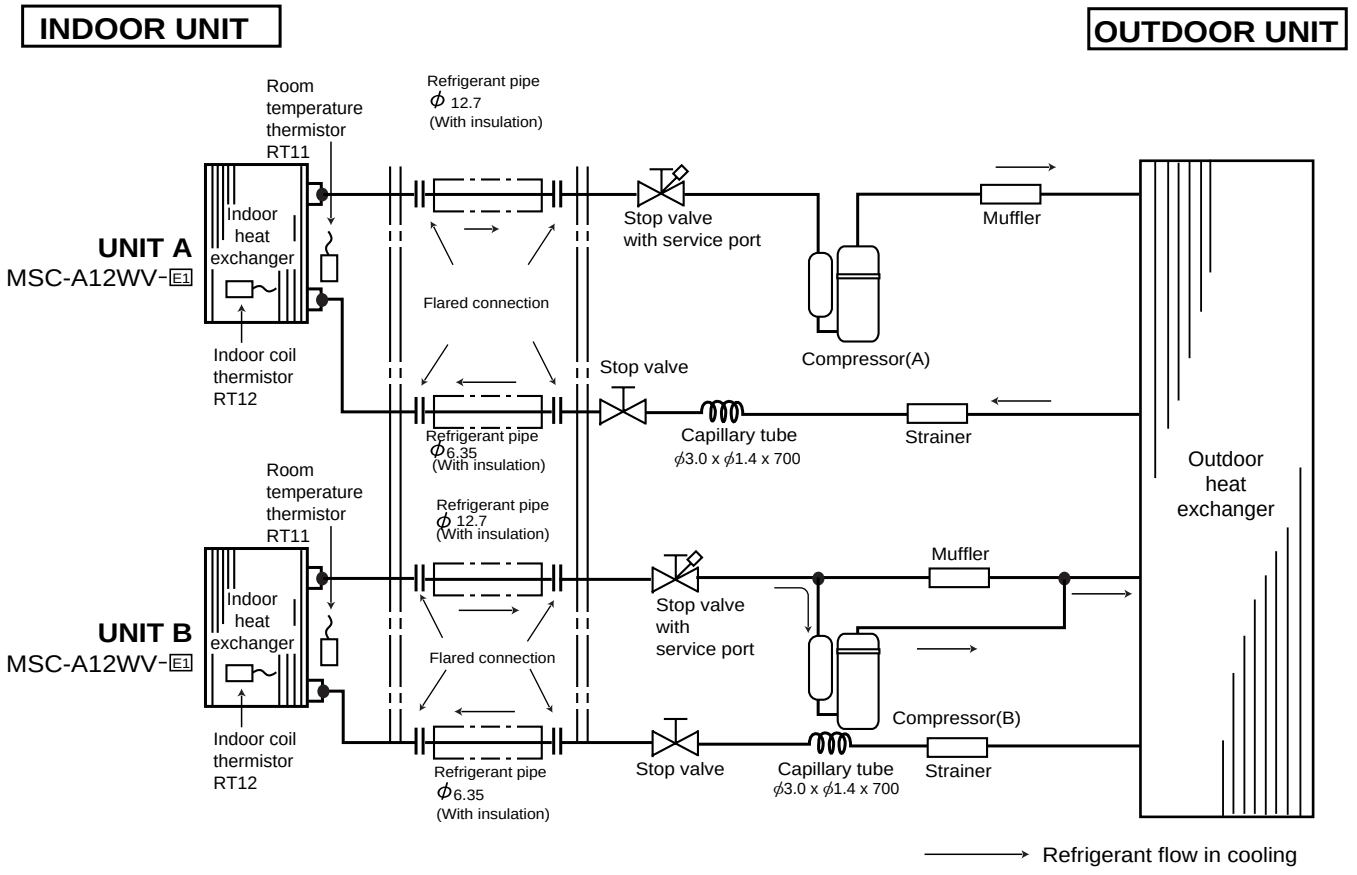
| UNIT No. | Pipe | Outside diameter | Insulation thickness | Insulation material |
|---|---|---|---|---|
| | | mm | | |
| A , B and C unit | For liquid | 6.35 | 8mm | Heat resisting foam plastic 0.045 specific gravity |
| | For gas | 9.52 | 8mm | |

②Ensure that the 2 refrigerant pipes are well insulated to prevent condensation.

③Refrigerant bending radius must be 100mm or more.

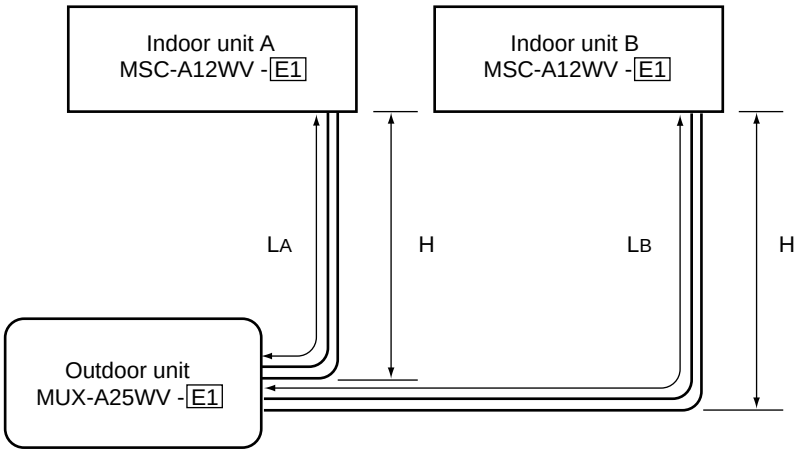
**Unit : mm**

**MSC-A12WV-E1** **MUX-A25WV-E1**



## MSX-A25WV-E1

### MAX.REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE




| | UNIT No. | Pipe length | | Height difference (H) | No. of bends |
|---|---|---|---|---|---|
| Max. limits | A | LA | 15m | 10m | 10 |
| | B | LB | 15m | 10m | 10 |

## ADDITIONAL REFRIGERANT CHARGE (R410A:g)

| | | Refrigerant piping length (one way) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A unit | Outdoor unit precharged | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m |
| | 950g | 0 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 |
| B unit | Outdoor unit precharged | Refrigerant piping length (one way) | | | | | | | | |
| | | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m |
| | 950g | 0 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 |

## PIPING PREPARATION

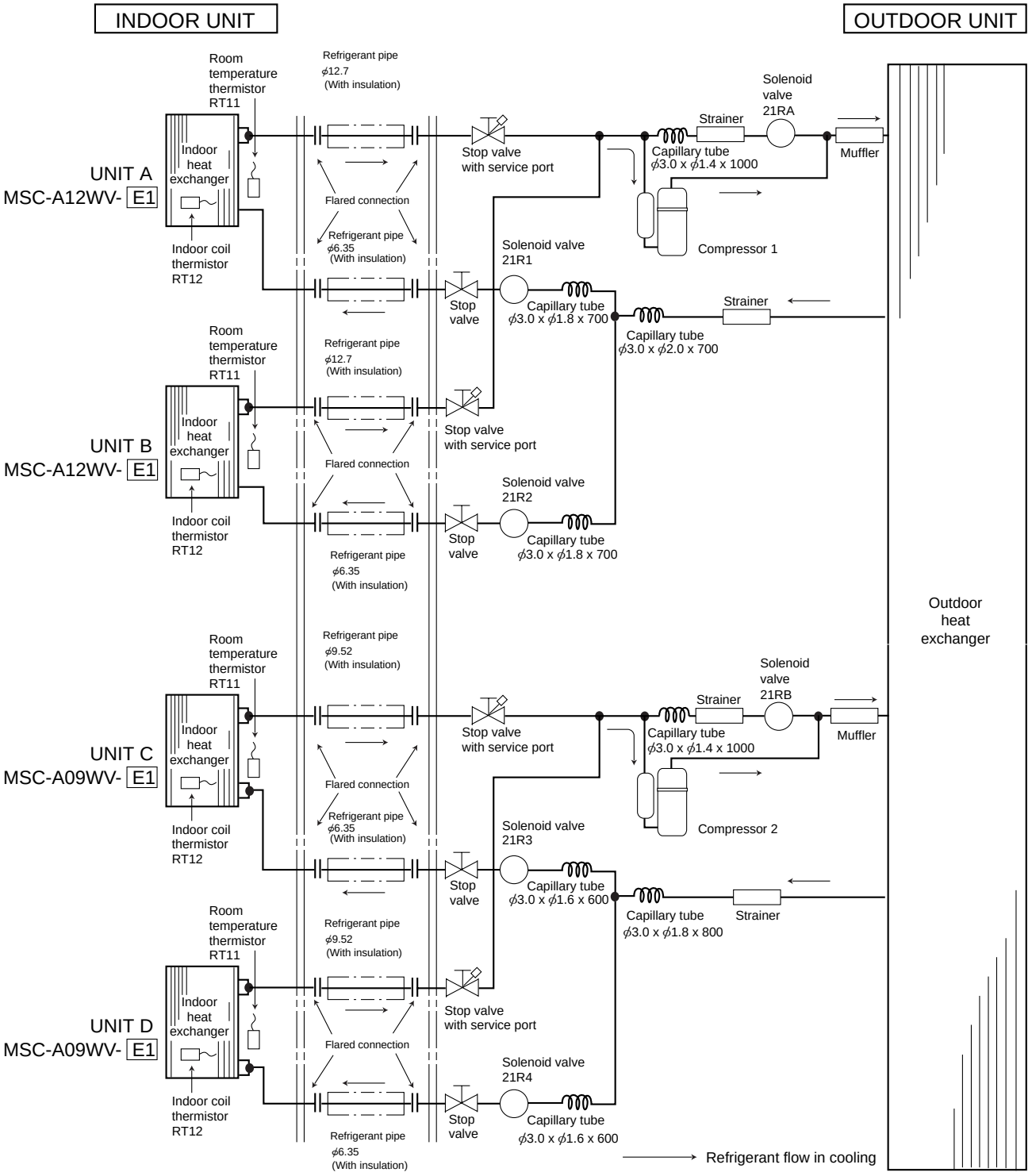
①Table below shows the specifications of pipes commercially available.

| UNIT No. | Pipe | Outside diameter | Insulation thickness | Insulation material |
|---|---|---|---|---|
| | | mm | | |
| A and B unit | For liquid | 6.35 | 8mm | Heat resisting foam plastic 0.045 specific gravity |
| | For gas | 12.7 | 8mm | |

②Ensure that the 2 refrigerant pipes are well insulated to prevent condensation.
③Refrigerant bending radius must be 10cm or more.

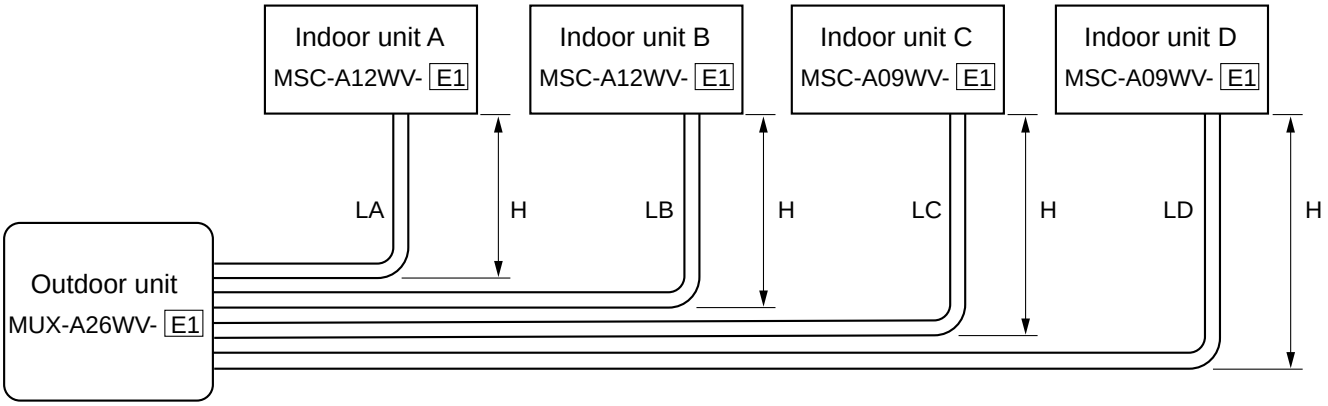
**MSC-A09WV-E1**
**MSC-A12WV-E1**

**MUX-A26WV-E1** **Unit : mm**



## MSX-A26WV-E1

### MAX.REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE




| | UNIT No. | Pipe length | | | | Height difference (H) | No. of bends | |
|---|---|---|---|---|---|---|---|---|
| Max. limits | A | LA | 15m | LA + LB | Total 30m | 10m | 10 | Total 15 |
| | B | LB | 15m | | | 10m | 10 | |
| | C | LC | 15m | LC + LD | Total 30m | 10m | 10 | Total 15 |
| | D | LD | 15m | | | 10m | 10 | |

## ADDITIONAL REFRIGERANT CHARGE (R410A:g)

| UNIT No. | Outdoor unit precharged | Refrigerant piping length (one way, 2 unit total) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 m | 11 m | 12 m | 13 m | 14 m | 15 m | 16 m | 17 m | 18 m | 19 m | 20 m | 21 m | 22 m | 23 m | 24 m | 25 m | 26 m | 27 m | 28 m | 29 m | 30 m |
| A unit + B unit | 1050g | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| C unit + D unit | 1050g | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |

## PIPING PREPARATION

| UNIT No. | Pipe | Outside diameter | Insulation thickness | Insulation material |
|---|---|---|---|---|
| | | mm | | |
| A and B unit | For liquid | 6.35 | 8mm | Heat resisting foam plastic 0.045 specific gravity |
| | For gas | 12.7 | 8mm | |
| C and D unit | For liquid | 6.35 | 8mm | |
| | For gas | 9.52 | 8mm | |

# 9 PERFORMANCE CURVES

**MSC-A07WV -E1 MU-A07WV -E1 MUH-A07WV -E1 MUX-A10WV -E1 MUX-A25WV -E1**
**MSC-A09WV -E1 MU-A09WV -E1 MUH-A09WV -E1 MUX-A19WV -E1 MUX-A26WV -E1**
**MSC-A12WV -E1 MU-A12WV -E1 MUH-A12WV -E1 MUX-A20WV -E1**

The standard data contained in these specifications apply only to the operation of the air conditioner under normal conditions, since operating conditions vary according to the areas where these units are installed. The following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

**(1) GUARANTEED VOLTAGE**

198~264V

**(2) AIR FLOW**

Air flow should be set at MAX.

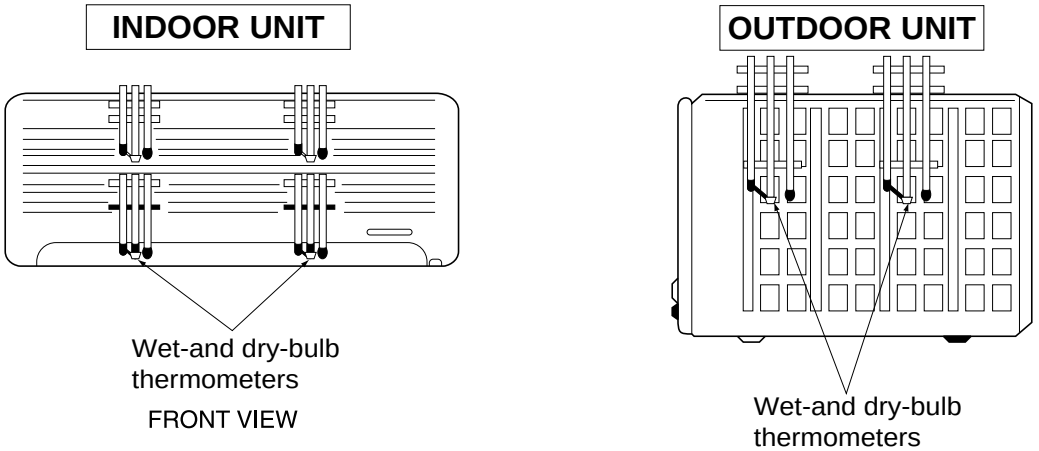
**(3) MAIN READINGS**

| | | |
|---|---|---|
| (1) Indoor intake air wet-bulb temperature : | °CWB | Cooling |
| (2) Indoor outlet air wet-bulb temperature : | °CWB | |
| (3) Outdoor intake air dry-bulb temperature : | °CDB | |
| (4) Total input: | W | |
| (5) Indoor intake air dry-bulb temperature : | °CDB | Heating **<MUH-A07/A09/A12WV>** |
| (6) Outdoor intake air wet-bulb temperature : | °CWB | |
| (7) Total input : | W | |

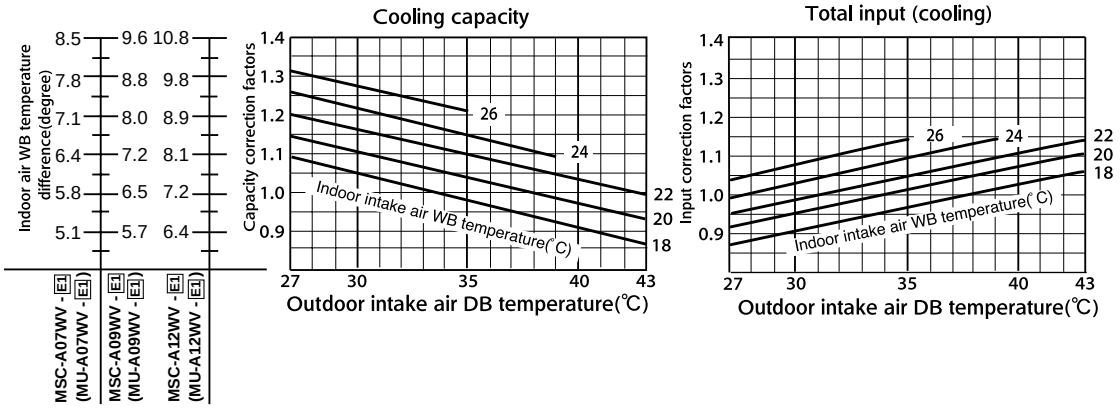
Indoor air wet/dry-bulb temperature difference on the left side of the chart on page 41,42 and 45 shows the difference between the indoor intake air wet/dry-bulb temperature and the indoor outlet air wet/dry-bulb temperature for your reference at service.

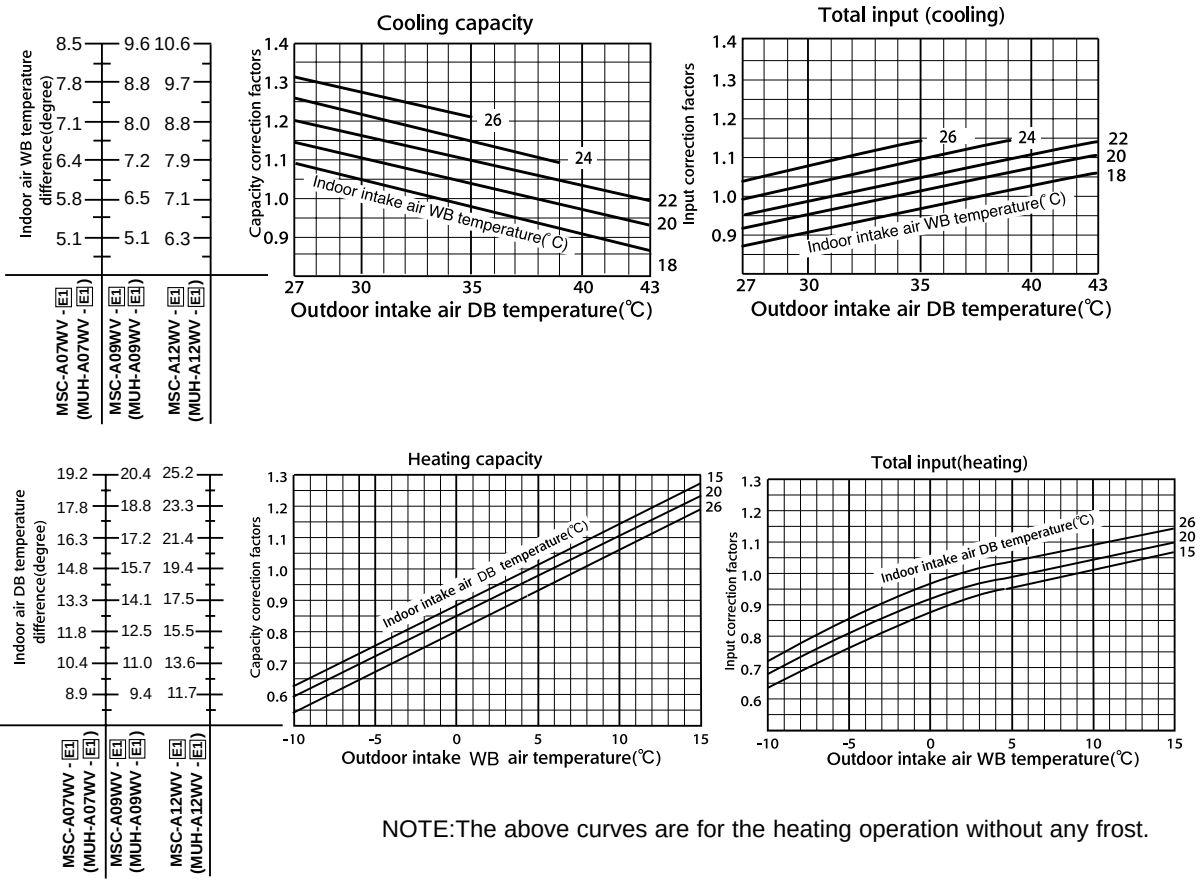
**How to measure the indoor air wet-bulb/dry-bulb temperature difference**

1. Attach at least 2 sets of wet-and dry-bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet-and dry-bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet-and dry-bulb thermometers to the outdoor air intake. Cover the thermometers to prevent direct rays of the sun.
3. Check that the air filter is cleaned.
4. Open windows and doors of room.
5. Press the EMERGENCY OPERATION switch once(twice) to start the EMERGENCY COOL (HEAT**<MUH-A07/A09/A12WV>**) MODE.
6. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
7. 10 minutes later, measure temperature again and check that the temperature does not change.




## 9-1.CAPACITY AND THE INPUT CURVES




Cooling capacity
Total input (cooling)
Indoor air WB temperature difference(degree)
Capacity correction factors
Input correction factors
Indoor intake air WB temperature(℃)
Outdoor intake air DB temperature(℃)
MSC-A07WV - E1 (MUH-A07WV - E1)
MSC-A09WV - E1 (MUH-A09WV - E1)
MSC-A12WV - E1 (MUH-A12WV - E1)
Heating capacity
Total input(heating)
Indoor air DB temperature difference(degree)
Indoor intake air DB temperature(℃)
Outdoor intake WB air temperature(℃)
Outdoor intake air WB temperature(℃)

NOTE:The above curves are for the heating operation without any frost.

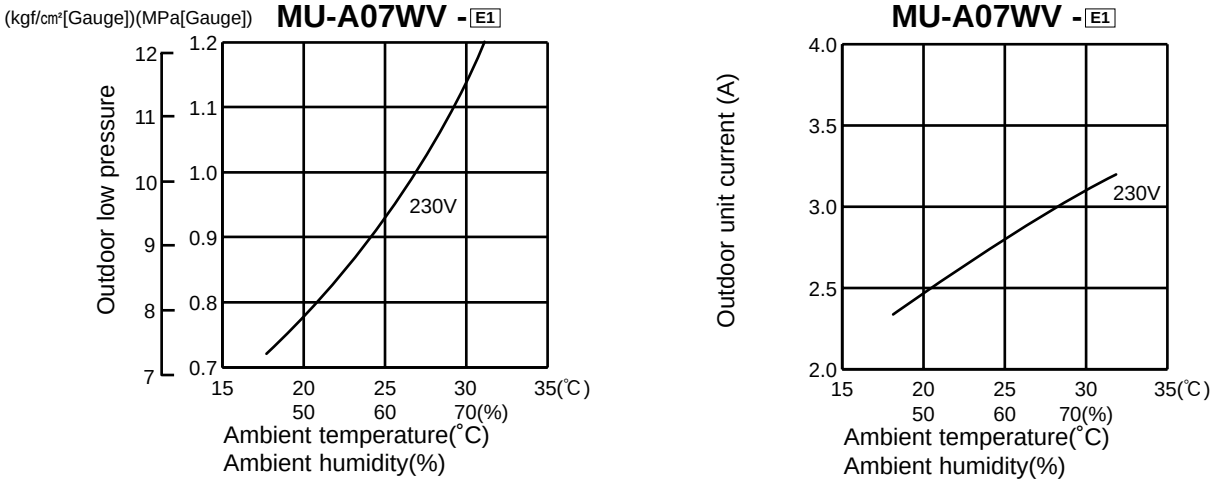
## 9-2.OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT
## COOL operation

① Both indoor and outdoor unit are under the same temperature/humidity condition.

| Dry-bulb temperature | Relative humidity(%) |
|---|---|
| 20 | 50 |
| 25 | 60 |
| 30 | 70 |

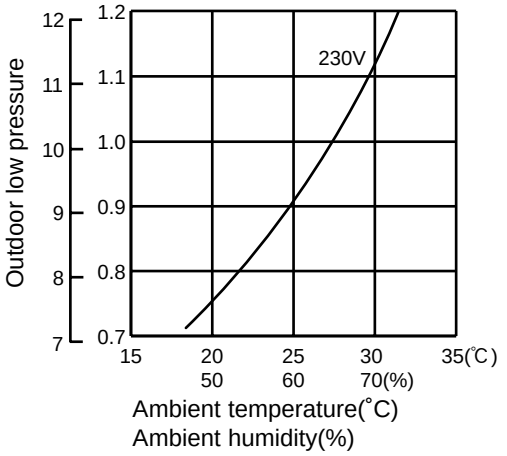
② Air flow should be set at MAX.

③ The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The conversion factor is : **1(MPa[Gauge]) =10.2(kgf/㎠[Gauge] )**

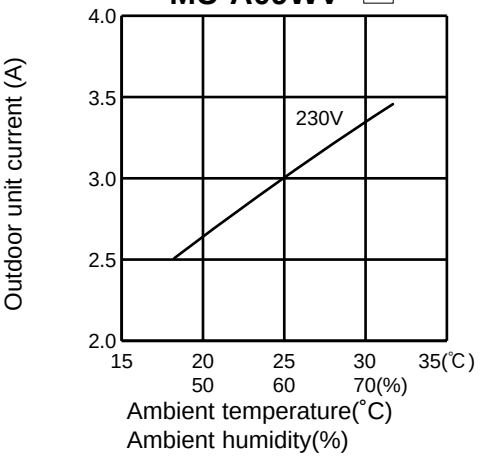


(kgf/cm²[Gauge])(MPa[Gauge])

## MU-A09WV - E1

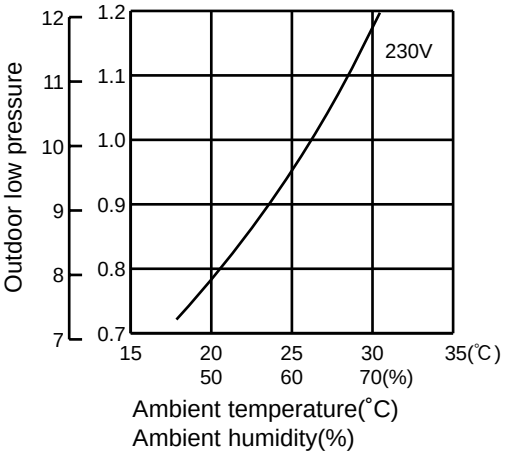



## MU-A09WV - E1

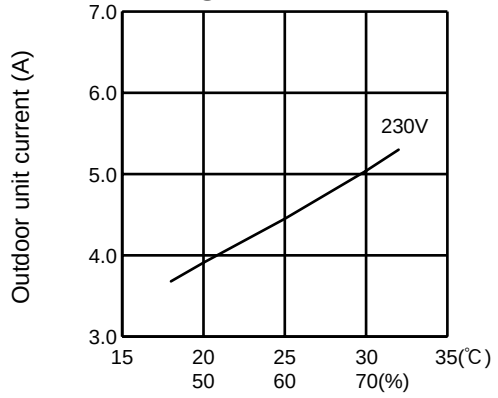



(kgf/cm²[Gauge])(MPa[Gauge])

## MU-A12WV - E1

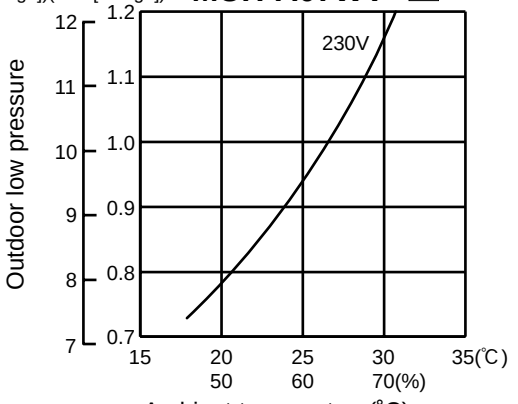



## MU-A12WV - E1

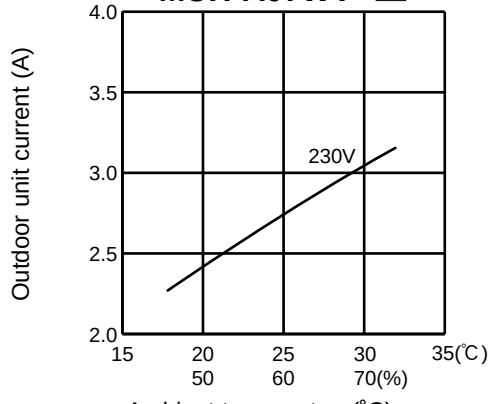



(kgf/cm²[Gauge])(MPa[Gauge])

## MUH-A07WV - E1

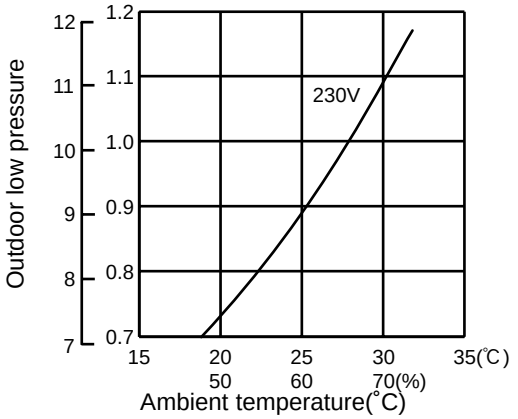



## MUH-A07WV - E1

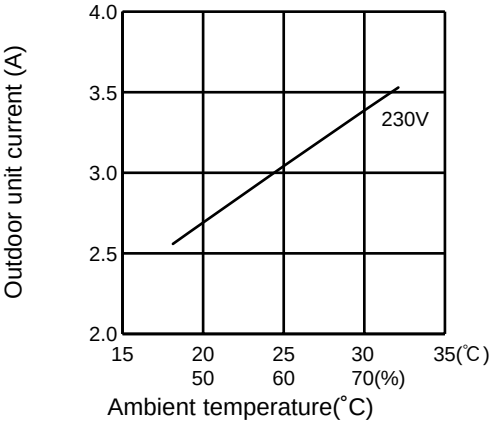



(kgf/cm²[Gauge])(MPa[Gauge])

## MUH-A09WV - E1

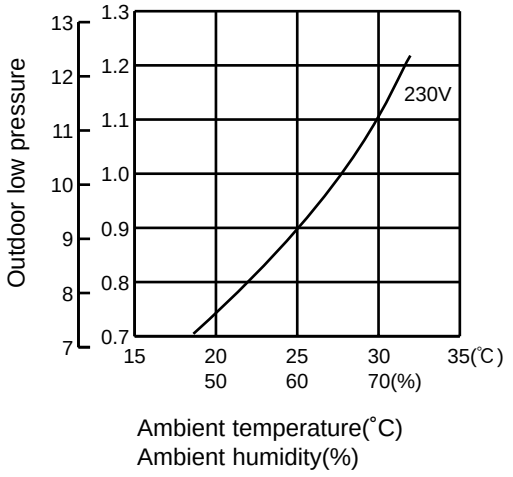



## MUH-A09WV - E1



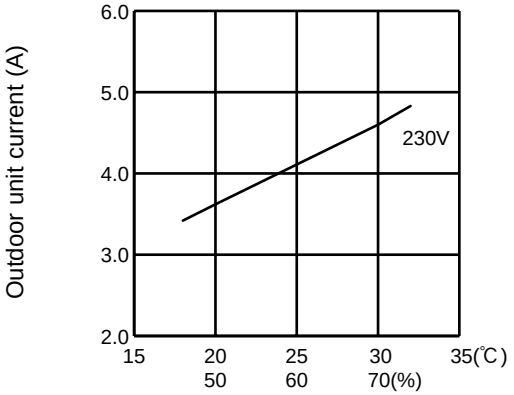
(kgf/㎠[Gauge])(MPa[Gauge])

**MUH-A12WV -** E1




Ambient temperature(˚C)
Ambient humidity(%)

**MUH-A12WV -** E1



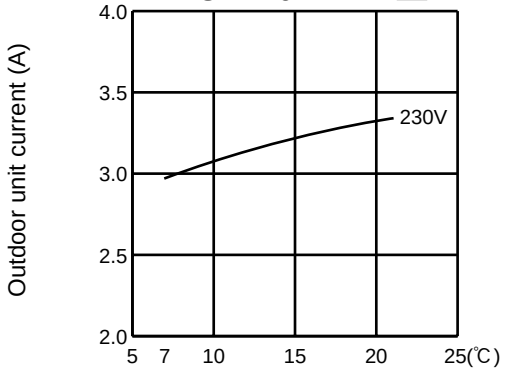

Ambient temperature(˚C)
Ambient humidity(%)

## HEAT operation

Condition indoor:Dry bulb temperature 20.0°C
Wet bulb temperature 14.5°C

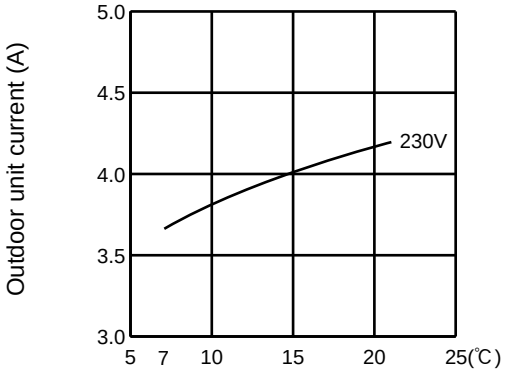
Outdoor:Dry bulb temperature 7,15,20°C
Wet bulb temperature 6,12,14.5°C

**MUH-A07WV -** E1



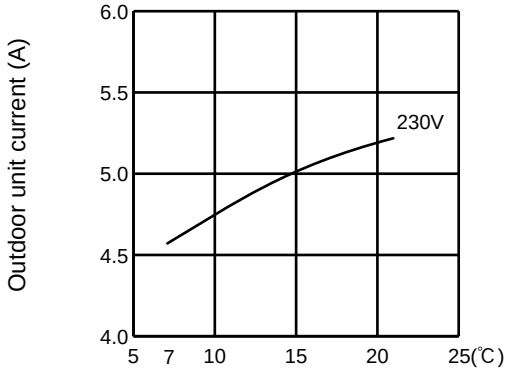

Ambient temperature(˚C)

**MUH-A09WV -** E1




Ambient temperature(˚C)

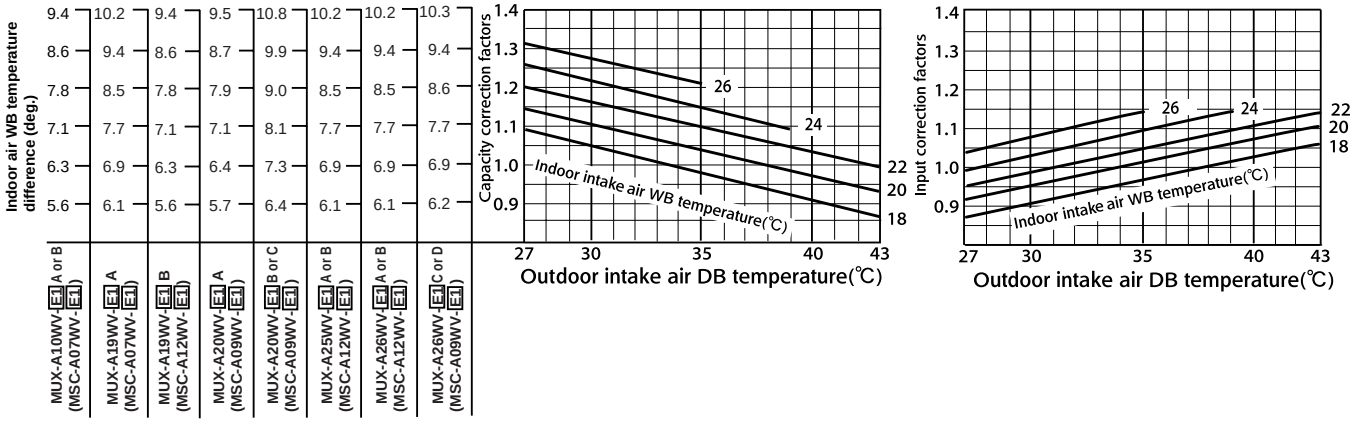
**MUH-A12WV -** E1




Ambient temperature(˚C)

**MSC-A07WV -E1 MUX-A10WV -E1 MUX-A25WV -E1**
**MSC-A09WV -E1 MUX-A19WV -E1 MUX-A26WV -E1**
**MSC-A12WV -E1 MUX-A20WV -E1**

## 9-3.CAPACITY AND THE INPUT CURVES (ONE INDOOR UNIT WITH ONE OUTDOOR UNIT)


Indoor air WB temperature difference (deg.)
9.4 10.2 9.4 9.5 10.8 10.2 10.2 10.3
8.6 9.4 8.6 8.7 9.9 9.4 9.4 9.4
7.8 8.5 7.8 7.9 9.0 8.5 8.5 8.6
7.1 7.7 7.1 7.1 8.1 7.7 7.7 7.7
6.3 6.9 6.3 6.4 7.3 6.9 6.9 6.9
5.6 6.1 5.6 5.7 6.4 6.1 6.1 6.2
MUX-A10WV-E1 A or B (MSC-A07WV-E1)
MUX-A19WV-E1 A (MSC-A07WV-E1)
MUX-A19WV-E1 B (MSC-A12WV-E1)
MUX-A20WV-E1 A (MSC-A09WV-E1)
MUX-A20WV-E1 B or C (MSC-A09WV-E1)
MUX-A25WV-E1 A or B (MSC-A12WV-E1)
MUX-A26WV-E1 A or B (MSC-A12WV-E1)
MUX-A26WV-E1 C or D (MSC-A09WV-E1)
Capacity correction factors
1.4 1.3 1.2 1.1 1.0 0.9
26
24
22
20
18
Indoor intake air WB temperature(℃)
27 30 35 40 43
Outdoor intake air DB temperature(℃)
Input correction factors
1.4 1.3 1.2 1.1 1.0 0.9
26
24
22
20
18
Indoor intake air WB temperature(℃)
27 30 35 40 43
Outdoor intake air DB temperature(℃)

## 9-4.OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

**COOL operation**

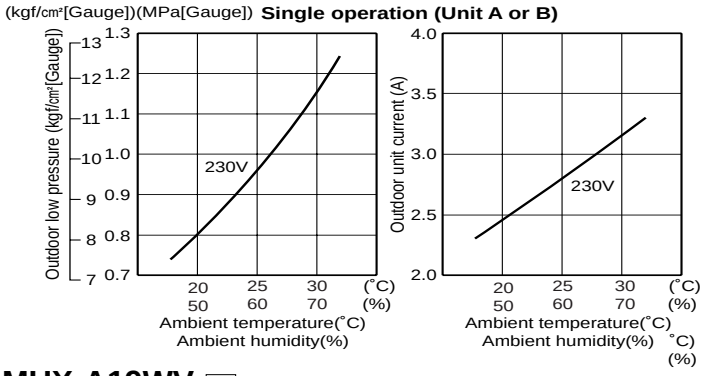
① Both indoor and outdoor unit are under same temperature/humidity condition.

| Dry-bulb temperature | Relative humidity (%) |
|---|---|
| 20 | 50 |
| 25 | 60 |
| 30 | 70 |

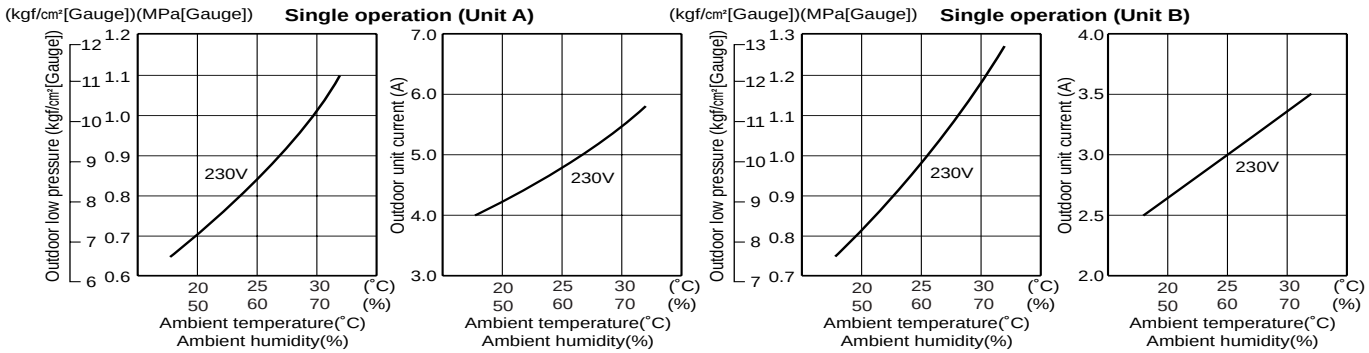
② Air flow should be set at MAX.

③ The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The conversion factor is : **1(MPa[Gauge]) =10.2(kgf/㎠[Gauge] )**

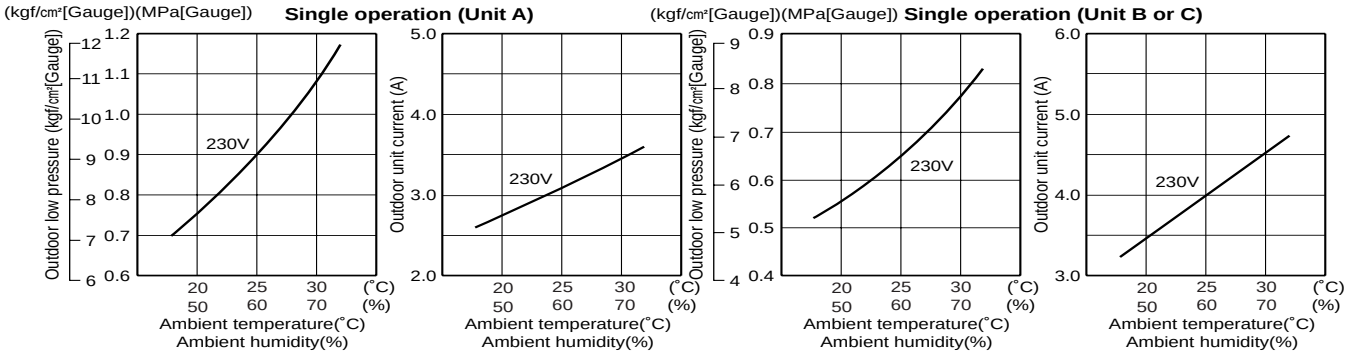
### MUX-A10WV-E1



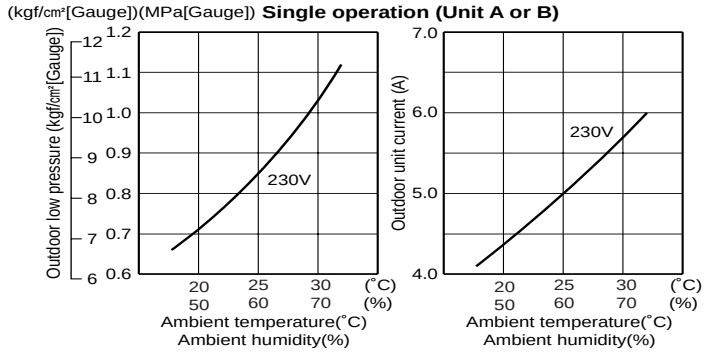

### MUX-A19WV-E1



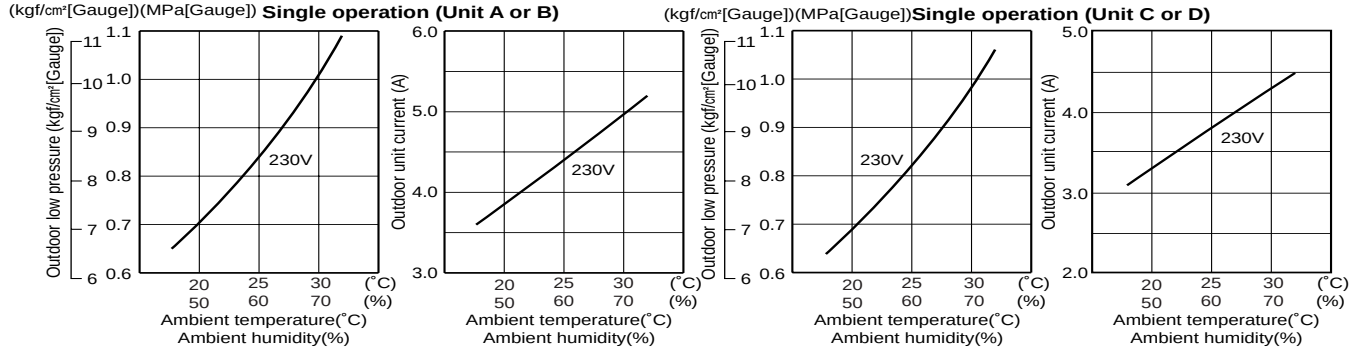
## MUX-A20WV-E1




## MUX-A25WV-E1




## MUX-A26WV-E1



**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1 : MU-A07WV -E1

CAPACITY : 2.3(kW) SHF : 0.74 INPUT : 710(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.70 | 1.51 | 0.56 | 568 | 2.59 | 1.45 | 0.56 | 596 | 2.48 | 1.39 | 0.56 | 625 | 2.39 | 1.34 | 0.56 | 653 |
| 21 | 20 | 2.82 | 1.24 | 0.44 | 596 | 2.70 | 1.19 | 0.44 | 632 | 2.62 | 1.15 | 0.44 | 646 | 2.53 | 1.11 | 0.44 | 675 |
| 22 | 18 | 2.70 | 1.62 | 0.60 | 568 | 2.59 | 1.55 | 0.60 | 596 | 2.48 | 1.49 | 0.60 | 625 | 2.39 | 1.44 | 0.60 | 653 |
| 22 | 20 | 2.82 | 1.35 | 0.48 | 596 | 2.70 | 1.30 | 0.48 | 632 | 2.62 | 1.26 | 0.48 | 646 | 2.53 | 1.21 | 0.48 | 675 |
| 22 | 22 | 2.93 | 1.06 | 0.36 | 618 | 2.83 | 1.02 | 0.36 | 657 | 2.76 | 0.99 | 0.36 | 675 | 2.65 | 0.95 | 0.36 | 703 |
| 23 | 18 | 2.70 | 1.73 | 0.64 | 568 | 2.59 | 1.66 | 0.64 | 596 | 2.48 | 1.59 | 0.64 | 625 | 2.39 | 1.53 | 0.64 | 653 |
| 23 | 20 | 2.82 | 1.47 | 0.52 | 596 | 2.70 | 1.41 | 0.52 | 632 | 2.62 | 1.36 | 0.52 | 646 | 2.53 | 1.32 | 0.52 | 675 |
| 23 | 22 | 2.93 | 1.17 | 0.40 | 618 | 2.83 | 1.13 | 0.40 | 657 | 2.76 | 1.10 | 0.40 | 675 | 2.65 | 1.06 | 0.40 | 703 |
| 24 | 18 | 2.70 | 1.84 | 0.68 | 568 | 2.59 | 1.76 | 0.68 | 596 | 2.48 | 1.69 | 0.68 | 625 | 2.39 | 1.63 | 0.68 | 653 |
| 24 | 20 | 2.82 | 1.58 | 0.56 | 596 | 2.70 | 1.51 | 0.56 | 632 | 2.62 | 1.47 | 0.56 | 646 | 2.53 | 1.42 | 0.56 | 675 |
| 24 | 22 | 2.93 | 1.29 | 0.44 | 618 | 2.83 | 1.24 | 0.44 | 657 | 2.76 | 1.21 | 0.44 | 675 | 2.65 | 1.16 | 0.44 | 703 |
| 24 | 24 | 3.08 | 0.99 | 0.32 | 646 | 2.97 | 0.95 | 0.32 | 682 | 2.90 | 0.93 | 0.32 | 703 | 2.81 | 0.90 | 0.32 | 738 |
| 25 | 18 | 2.70 | 1.95 | 0.72 | 568 | 2.59 | 1.86 | 0.72 | 596 | 2.48 | 1.79 | 0.72 | 625 | 2.39 | 1.72 | 0.72 | 653 |
| 25 | 20 | 2.82 | 1.69 | 0.60 | 596 | 2.70 | 1.62 | 0.60 | 632 | 2.62 | 1.57 | 0.60 | 646 | 2.53 | 1.52 | 0.60 | 675 |
| 25 | 22 | 2.93 | 1.41 | 0.48 | 618 | 2.83 | 1.36 | 0.48 | 657 | 2.76 | 1.32 | 0.48 | 675 | 2.65 | 1.27 | 0.48 | 703 |
| 25 | 24 | 3.08 | 1.11 | 0.36 | 646 | 2.97 | 1.07 | 0.36 | 682 | 2.90 | 1.04 | 0.36 | 703 | 2.81 | 1.01 | 0.36 | 738 |
| 26 | 18 | 2.70 | 2.05 | 0.76 | 568 | 2.59 | 1.97 | 0.76 | 596 | 2.48 | 1.89 | 0.76 | 625 | 2.39 | 1.82 | 0.76 | 653 |
| 26 | 20 | 2.82 | 1.80 | 0.64 | 596 | 2.70 | 1.73 | 0.64 | 632 | 2.62 | 1.68 | 0.64 | 646 | 2.53 | 1.62 | 0.64 | 675 |
| 26 | 22 | 2.93 | 1.52 | 0.52 | 618 | 2.83 | 1.47 | 0.52 | 657 | 2.76 | 1.44 | 0.52 | 675 | 2.65 | 1.38 | 0.52 | 703 |
| 26 | 24 | 3.08 | 1.23 | 0.40 | 646 | 2.97 | 1.19 | 0.40 | 682 | 2.90 | 1.16 | 0.40 | 703 | 2.81 | 1.12 | 0.40 | 738 |
| 26 | 26 | 3.17 | 0.89 | 0.28 | 682 | 3.08 | 0.86 | 0.28 | 717 | 3.04 | 0.85 | 0.28 | 738 | 2.94 | 0.82 | 0.28 | 760 |
| 27 | 18 | 2.70 | 2.16 | 0.80 | 568 | 2.59 | 2.07 | 0.80 | 596 | 2.48 | 1.99 | 0.80 | 625 | 2.39 | 1.91 | 0.80 | 653 |
| 27 | 20 | 2.82 | 1.92 | 0.68 | 596 | 2.70 | 1.84 | 0.68 | 632 | 2.62 | 1.78 | 0.68 | 646 | 2.53 | 1.72 | 0.68 | 675 |
| 27 | 22 | 2.93 | 1.64 | 0.56 | 618 | 2.83 | 1.58 | 0.56 | 657 | 2.76 | 1.55 | 0.56 | 675 | 2.65 | 1.48 | 0.56 | 703 |
| 27 | 24 | 3.08 | 1.36 | 0.44 | 646 | 2.97 | 1.31 | 0.44 | 682 | 2.90 | 1.28 | 0.44 | 703 | 2.81 | 1.23 | 0.44 | 738 |
| 27 | 26 | 3.17 | 1.02 | 0.32 | 682 | 3.08 | 0.99 | 0.32 | 717 | 3.04 | 0.97 | 0.32 | 738 | 2.94 | 0.94 | 0.32 | 760 |
| 28 | 18 | 2.70 | 2.27 | 0.84 | 568 | 2.59 | 2.17 | 0.84 | 596 | 2.48 | 2.09 | 0.84 | 625 | 2.39 | 2.01 | 0.84 | 653 |
| 28 | 20 | 2.82 | 2.03 | 0.72 | 596 | 2.70 | 1.95 | 0.72 | 632 | 2.62 | 1.89 | 0.72 | 646 | 2.53 | 1.82 | 0.72 | 675 |
| 28 | 22 | 2.93 | 1.76 | 0.60 | 618 | 2.83 | 1.70 | 0.60 | 657 | 2.76 | 1.66 | 0.60 | 675 | 2.65 | 1.59 | 0.60 | 703 |
| 28 | 24 | 3.08 | 1.48 | 0.48 | 646 | 2.97 | 1.42 | 0.48 | 682 | 2.90 | 1.39 | 0.48 | 703 | 2.81 | 1.35 | 0.48 | 738 |
| 28 | 26 | 3.17 | 1.14 | 0.36 | 682 | 3.08 | 1.11 | 0.36 | 717 | 3.04 | 1.09 | 0.36 | 738 | 2.94 | 1.06 | 0.36 | 760 |
| 29 | 18 | 2.70 | 2.38 | 0.88 | 568 | 2.59 | 2.28 | 0.88 | 596 | 2.48 | 2.19 | 0.88 | 625 | 2.39 | 2.10 | 0.88 | 653 |
| 29 | 20 | 2.82 | 2.14 | 0.76 | 596 | 2.70 | 2.05 | 0.76 | 632 | 2.62 | 1.99 | 0.76 | 646 | 2.53 | 1.92 | 0.76 | 675 |
| 29 | 22 | 2.93 | 1.88 | 0.64 | 618 | 2.83 | 1.81 | 0.64 | 657 | 2.76 | 1.77 | 0.64 | 675 | 2.65 | 1.69 | 0.64 | 703 |
| 29 | 24 | 3.08 | 1.60 | 0.52 | 646 | 2.97 | 1.54 | 0.52 | 682 | 2.90 | 1.51 | 0.52 | 703 | 2.81 | 1.46 | 0.52 | 738 |
| 29 | 26 | 3.17 | 1.27 | 0.40 | 682 | 3.08 | 1.23 | 0.40 | 717 | 3.04 | 1.21 | 0.40 | 738 | 2.94 | 1.18 | 0.40 | 760 |
| 30 | 18 | 2.70 | 2.49 | 0.92 | 568 | 2.59 | 2.38 | 0.92 | 596 | 2.48 | 2.29 | 0.92 | 625 | 2.39 | 2.20 | 0.92 | 653 |
| 30 | 20 | 2.82 | 2.25 | 0.80 | 596 | 2.70 | 2.16 | 0.80 | 632 | 2.62 | 2.10 | 0.80 | 646 | 2.53 | 2.02 | 0.80 | 675 |
| 30 | 22 | 2.93 | 1.99 | 0.68 | 618 | 2.83 | 1.92 | 0.68 | 657 | 2.76 | 1.88 | 0.68 | 675 | 2.65 | 1.80 | 0.68 | 703 |
| 30 | 24 | 3.08 | 1.73 | 0.56 | 646 | 2.97 | 1.66 | 0.56 | 682 | 2.90 | 1.62 | 0.56 | 703 | 2.81 | 1.57 | 0.56 | 738 |
| 30 | 26 | 3.17 | 1.40 | 0.44 | 682 | 3.08 | 1.36 | 0.44 | 717 | 3.04 | 1.34 | 0.44 | 738 | 2.94 | 1.30 | 0.44 | 760 |
| 31 | 18 | 2.70 | 2.59 | 0.96 | 568 | 2.59 | 2.48 | 0.96 | 596 | 2.48 | 2.38 | 0.96 | 625 | 2.39 | 2.30 | 0.96 | 653 |
| 31 | 20 | 2.82 | 2.37 | 0.84 | 596 | 2.70 | 2.27 | 0.84 | 632 | 2.62 | 2.20 | 0.84 | 646 | 2.53 | 2.13 | 0.84 | 675 |
| 31 | 22 | 2.93 | 2.11 | 0.72 | 618 | 2.83 | 2.04 | 0.72 | 657 | 2.76 | 1.99 | 0.72 | 675 | 2.65 | 1.90 | 0.72 | 703 |
| 31 | 24 | 3.08 | 1.85 | 0.60 | 646 | 2.97 | 1.78 | 0.60 | 682 | 2.90 | 1.74 | 0.60 | 703 | 2.81 | 1.68 | 0.60 | 738 |
| 31 | 26 | 3.17 | 1.52 | 0.48 | 682 | 3.08 | 1.48 | 0.48 | 717 | 3.04 | 1.46 | 0.48 | 738 | 2.94 | 1.41 | 0.48 | 760 |
| 32 | 18 | 2.70 | 2.70 | 1.00 | 568 | 2.59 | 2.59 | 1.00 | 596 | 2.48 | 2.48 | 1.00 | 625 | 2.39 | 2.39 | 1.00 | 653 |
| 32 | 20 | 2.82 | 2.48 | 0.88 | 596 | 2.70 | 2.38 | 0.88 | 632 | 2.62 | 2.31 | 0.88 | 646 | 2.53 | 2.23 | 0.88 | 675 |
| 32 | 22 | 2.93 | 2.23 | 0.76 | 618 | 2.83 | 2.15 | 0.76 | 657 | 2.76 | 2.10 | 0.76 | 675 | 2.65 | 2.01 | 0.76 | 703 |
| 32 | 24 | 3.08 | 1.97 | 0.64 | 646 | 2.97 | 1.90 | 0.64 | 682 | 2.90 | 1.85 | 0.64 | 703 | 2.81 | 1.80 | 0.64 | 738 |
| 32 | 26 | 3.17 | 1.65 | 0.52 | 682 | 3.08 | 1.60 | 0.52 | 717 | 3.04 | 1.58 | 0.52 | 738 | 2.94 | 1.53 | 0.52 | 760 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1 : MU-A07WV -E1

CAPACITY : 2.3(kW) SHF : 0.74 INPUT : 710(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.25 | 1.26 | 0.56 | 696 | 2.07 | 1.16 | 0.56 | 738 | 1.99 | 1.11 | 0.56 | 753 |
| 21 | 20 | 2.37 | 1.04 | 0.44 | 724 | 2.21 | 0.97 | 0.44 | 760 | 2.13 | 0.94 | 0.44 | 781 |
| 22 | 18 | 2.25 | 1.35 | 0.60 | 696 | 2.07 | 1.24 | 0.60 | 738 | 1.99 | 1.19 | 0.60 | 753 |
| 22 | 20 | 2.37 | 1.14 | 0.48 | 724 | 2.21 | 1.06 | 0.48 | 760 | 2.13 | 1.02 | 0.48 | 781 |
| 22 | 22 | 2.51 | 0.90 | 0.36 | 753 | 2.35 | 0.84 | 0.36 | 795 | 2.27 | 0.82 | 0.36 | 809 |
| 23 | 18 | 2.25 | 1.44 | 0.64 | 696 | 2.07 | 1.32 | 0.64 | 738 | 1.99 | 1.27 | 0.64 | 753 |
| 23 | 20 | 2.37 | 1.23 | 0.52 | 724 | 2.21 | 1.15 | 0.52 | 760 | 2.13 | 1.11 | 0.52 | 781 |
| 23 | 22 | 2.51 | 1.00 | 0.40 | 753 | 2.35 | 0.94 | 0.40 | 795 | 2.27 | 0.91 | 0.40 | 809 |
| 24 | 18 | 2.25 | 1.53 | 0.68 | 696 | 2.07 | 1.41 | 0.68 | 738 | 1.99 | 1.35 | 0.68 | 753 |
| 24 | 20 | 2.37 | 1.33 | 0.56 | 724 | 2.21 | 1.24 | 0.56 | 760 | 2.13 | 1.19 | 0.56 | 781 |
| 24 | 22 | 2.51 | 1.10 | 0.44 | 753 | 2.35 | 1.03 | 0.44 | 795 | 2.27 | 1.00 | 0.44 | 809 |
| 24 | 24 | 2.65 | 0.85 | 0.32 | 781 | 2.48 | 0.79 | 0.32 | 817 | 2.42 | 0.77 | 0.32 | 834 |
| 25 | 18 | 2.25 | 1.62 | 0.72 | 696 | 2.07 | 1.49 | 0.72 | 738 | 1.99 | 1.43 | 0.72 | 753 |
| 25 | 20 | 2.37 | 1.42 | 0.60 | 724 | 2.21 | 1.32 | 0.60 | 760 | 2.13 | 1.28 | 0.60 | 781 |
| 25 | 22 | 2.51 | 1.20 | 0.48 | 753 | 2.35 | 1.13 | 0.48 | 795 | 2.27 | 1.09 | 0.48 | 809 |
| 25 | 24 | 2.65 | 0.95 | 0.36 | 781 | 2.48 | 0.89 | 0.36 | 817 | 2.42 | 0.87 | 0.36 | 834 |
| 26 | 18 | 2.25 | 1.71 | 0.76 | 696 | 2.07 | 1.57 | 0.76 | 738 | 1.99 | 1.51 | 0.76 | 753 |
| 26 | 20 | 2.37 | 1.52 | 0.64 | 724 | 2.21 | 1.41 | 0.64 | 760 | 2.13 | 1.36 | 0.64 | 781 |
| 26 | 22 | 2.51 | 1.30 | 0.52 | 753 | 2.35 | 1.22 | 0.52 | 795 | 2.27 | 1.18 | 0.52 | 809 |
| 26 | 24 | 2.65 | 1.06 | 0.40 | 781 | 2.48 | 0.99 | 0.40 | 817 | 2.42 | 0.97 | 0.40 | 834 |
| 26 | 26 | 2.78 | 0.78 | 0.28 | 809 | 2.62 | 0.73 | 0.28 | 845 | 2.54 | 0.71 | 0.28 | 863 |
| 27 | 18 | 2.25 | 1.80 | 0.80 | 696 | 2.07 | 1.66 | 0.80 | 738 | 1.99 | 1.59 | 0.80 | 753 |
| 27 | 20 | 2.37 | 1.61 | 0.68 | 724 | 2.21 | 1.50 | 0.68 | 760 | 2.13 | 1.45 | 0.68 | 781 |
| 27 | 22 | 2.51 | 1.40 | 0.56 | 753 | 2.35 | 1.31 | 0.56 | 795 | 2.27 | 1.27 | 0.56 | 809 |
| 27 | 24 | 2.65 | 1.16 | 0.44 | 781 | 2.48 | 1.09 | 0.44 | 817 | 2.42 | 1.06 | 0.44 | 834 |
| 27 | 26 | 2.78 | 0.89 | 0.32 | 809 | 2.62 | 0.84 | 0.32 | 845 | 2.54 | 0.81 | 0.32 | 863 |
| 28 | 18 | 2.25 | 1.89 | 0.84 | 696 | 2.07 | 1.74 | 0.84 | 738 | 1.99 | 1.67 | 0.84 | 753 |
| 28 | 20 | 2.37 | 1.71 | 0.72 | 724 | 2.21 | 1.59 | 0.72 | 760 | 2.13 | 1.53 | 0.72 | 781 |
| 28 | 22 | 2.51 | 1.50 | 0.60 | 753 | 2.35 | 1.41 | 0.60 | 795 | 2.27 | 1.36 | 0.60 | 809 |
| 28 | 24 | 2.65 | 1.27 | 0.48 | 781 | 2.48 | 1.19 | 0.48 | 817 | 2.42 | 1.16 | 0.48 | 834 |
| 28 | 26 | 2.78 | 1.00 | 0.36 | 809 | 2.62 | 0.94 | 0.36 | 845 | 2.54 | 0.91 | 0.36 | 863 |
| 29 | 18 | 2.25 | 1.98 | 0.88 | 696 | 2.07 | 1.82 | 0.88 | 738 | 1.99 | 1.75 | 0.88 | 753 |
| 29 | 20 | 2.37 | 1.80 | 0.76 | 724 | 2.21 | 1.68 | 0.76 | 760 | 2.13 | 1.62 | 0.76 | 781 |
| 29 | 22 | 2.51 | 1.60 | 0.64 | 753 | 2.35 | 1.50 | 0.64 | 795 | 2.27 | 1.45 | 0.64 | 809 |
| 29 | 24 | 2.65 | 1.38 | 0.52 | 781 | 2.48 | 1.29 | 0.52 | 817 | 2.42 | 1.26 | 0.52 | 834 |
| 29 | 26 | 2.78 | 1.11 | 0.40 | 809 | 2.62 | 1.05 | 0.40 | 845 | 2.54 | 1.02 | 0.40 | 863 |
| 30 | 18 | 2.25 | 2.07 | 0.92 | 696 | 2.07 | 1.90 | 0.92 | 738 | 1.99 | 1.83 | 0.92 | 753 |
| 30 | 20 | 2.37 | 1.90 | 0.80 | 724 | 2.21 | 1.77 | 0.80 | 760 | 2.13 | 1.70 | 0.80 | 781 |
| 30 | 22 | 2.51 | 1.70 | 0.68 | 753 | 2.35 | 1.60 | 0.68 | 795 | 2.27 | 1.54 | 0.68 | 809 |
| 30 | 24 | 2.65 | 1.48 | 0.56 | 781 | 2.48 | 1.39 | 0.56 | 817 | 2.42 | 1.35 | 0.56 | 834 |
| 30 | 26 | 2.78 | 1.22 | 0.44 | 809 | 2.62 | 1.15 | 0.44 | 845 | 2.54 | 1.12 | 0.44 | 863 |
| 31 | 18 | 2.25 | 2.16 | 0.96 | 696 | 2.07 | 1.99 | 0.96 | 738 | 1.99 | 1.91 | 0.96 | 753 |
| 31 | 20 | 2.37 | 1.99 | 0.84 | 724 | 2.21 | 1.85 | 0.84 | 760 | 2.13 | 1.79 | 0.84 | 781 |
| 31 | 22 | 2.51 | 1.81 | 0.72 | 753 | 2.35 | 1.69 | 0.72 | 795 | 2.27 | 1.63 | 0.72 | 809 |
| 31 | 24 | 2.65 | 1.59 | 0.60 | 781 | 2.48 | 1.49 | 0.60 | 817 | 2.42 | 1.45 | 0.60 | 834 |
| 31 | 26 | 2.78 | 1.34 | 0.48 | 809 | 2.62 | 1.26 | 0.48 | 845 | 2.54 | 1.22 | 0.48 | 863 |
| 32 | 18 | 2.25 | 2.25 | 1.00 | 696 | 2.07 | 2.07 | 1.00 | 738 | 1.99 | 1.99 | 1.00 | 753 |
| 32 | 20 | 2.37 | 2.08 | 0.88 | 724 | 2.21 | 1.94 | 0.88 | 760 | 2.13 | 1.87 | 0.88 | 781 |
| 32 | 22 | 2.51 | 1.91 | 0.76 | 753 | 2.35 | 1.78 | 0.76 | 795 | 2.27 | 1.72 | 0.76 | 809 |
| 32 | 24 | 2.65 | 1.69 | 0.64 | 781 | 2.48 | 1.59 | 0.64 | 817 | 2.42 | 1.55 | 0.64 | 834 |
| 32 | 26 | 2.78 | 1.45 | 0.52 | 809 | 2.62 | 1.36 | 0.52 | 845 | 2.54 | 1.32 | 0.52 | 863 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 : MU-A09WV -E1

CAPACITY : 2.55(kW) SHF : 0.70 INPUT : 780(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.00 | 1.56 | 0.52 | 624 | 2.87 | 1.49 | 0.52 | 655 | 2.75 | 1.43 | 0.52 | 686 | 2.65 | 1.38 | 0.52 | 718 |
| 21 | 20 | 3.12 | 1.25 | 0.40 | 655 | 3.00 | 1.20 | 0.40 | 694 | 2.91 | 1.16 | 0.40 | 710 | 2.81 | 1.12 | 0.40 | 741 |
| 22 | 18 | 3.00 | 1.68 | 0.56 | 624 | 2.87 | 1.61 | 0.56 | 655 | 2.75 | 1.54 | 0.56 | 686 | 2.65 | 1.49 | 0.56 | 718 |
| 22 | 20 | 3.12 | 1.37 | 0.44 | 655 | 3.00 | 1.32 | 0.44 | 694 | 2.91 | 1.28 | 0.44 | 710 | 2.81 | 1.23 | 0.44 | 741 |
| 22 | 22 | 3.25 | 1.04 | 0.32 | 679 | 3.14 | 1.00 | 0.32 | 722 | 3.06 | 0.98 | 0.32 | 741 | 2.93 | 0.94 | 0.32 | 772 |
| 23 | 18 | 3.00 | 1.80 | 0.60 | 624 | 2.87 | 1.72 | 0.60 | 655 | 2.75 | 1.65 | 0.60 | 686 | 2.65 | 1.59 | 0.60 | 718 |
| 23 | 20 | 3.12 | 1.50 | 0.48 | 655 | 3.00 | 1.44 | 0.48 | 694 | 2.91 | 1.40 | 0.48 | 710 | 2.81 | 1.35 | 0.48 | 741 |
| 23 | 22 | 3.25 | 1.17 | 0.36 | 679 | 3.14 | 1.13 | 0.36 | 722 | 3.06 | 1.10 | 0.36 | 741 | 2.93 | 1.06 | 0.36 | 772 |
| 24 | 18 | 3.00 | 1.92 | 0.64 | 624 | 2.87 | 1.84 | 0.64 | 655 | 2.75 | 1.76 | 0.64 | 686 | 2.65 | 1.70 | 0.64 | 718 |
| 24 | 20 | 3.12 | 1.62 | 0.52 | 655 | 3.00 | 1.56 | 0.52 | 694 | 2.91 | 1.51 | 0.52 | 710 | 2.81 | 1.46 | 0.52 | 741 |
| 24 | 22 | 3.25 | 1.30 | 0.40 | 679 | 3.14 | 1.25 | 0.40 | 722 | 3.06 | 1.22 | 0.40 | 741 | 2.93 | 1.17 | 0.40 | 772 |
| 24 | 24 | 3.42 | 0.96 | 0.28 | 710 | 3.29 | 0.92 | 0.28 | 749 | 3.21 | 0.90 | 0.28 | 772 | 3.11 | 0.87 | 0.28 | 811 |
| 25 | 18 | 3.00 | 2.04 | 0.68 | 624 | 2.87 | 1.95 | 0.68 | 655 | 2.75 | 1.87 | 0.68 | 686 | 2.65 | 1.80 | 0.68 | 718 |
| 25 | 20 | 3.12 | 1.75 | 0.56 | 655 | 3.00 | 1.68 | 0.56 | 694 | 2.91 | 1.63 | 0.56 | 710 | 2.81 | 1.57 | 0.56 | 741 |
| 25 | 22 | 3.25 | 1.43 | 0.44 | 679 | 3.14 | 1.38 | 0.44 | 722 | 3.06 | 1.35 | 0.44 | 741 | 2.93 | 1.29 | 0.44 | 772 |
| 25 | 24 | 3.42 | 1.09 | 0.32 | 710 | 3.29 | 1.05 | 0.32 | 749 | 3.21 | 1.03 | 0.32 | 772 | 3.11 | 1.00 | 0.32 | 811 |
| 26 | 18 | 3.00 | 2.16 | 0.72 | 624 | 2.87 | 2.07 | 0.72 | 655 | 2.75 | 1.98 | 0.72 | 686 | 2.65 | 1.91 | 0.72 | 718 |
| 26 | 20 | 3.12 | 1.87 | 0.60 | 655 | 3.00 | 1.80 | 0.60 | 694 | 2.91 | 1.74 | 0.60 | 710 | 2.81 | 1.68 | 0.60 | 741 |
| 26 | 22 | 3.25 | 1.56 | 0.48 | 679 | 3.14 | 1.51 | 0.48 | 722 | 3.06 | 1.47 | 0.48 | 741 | 2.93 | 1.41 | 0.48 | 772 |
| 26 | 24 | 3.42 | 1.23 | 0.36 | 710 | 3.29 | 1.18 | 0.36 | 749 | 3.21 | 1.16 | 0.36 | 772 | 3.11 | 1.12 | 0.36 | 811 |
| 26 | 26 | 3.52 | 0.84 | 0.24 | 749 | 3.42 | 0.82 | 0.24 | 788 | 3.37 | 0.81 | 0.24 | 811 | 3.26 | 0.78 | 0.24 | 835 |
| 27 | 18 | 3.00 | 2.28 | 0.76 | 624 | 2.87 | 2.18 | 0.76 | 655 | 2.75 | 2.09 | 0.76 | 686 | 2.65 | 2.02 | 0.76 | 718 |
| 27 | 20 | 3.12 | 2.00 | 0.64 | 655 | 3.00 | 1.92 | 0.64 | 694 | 2.91 | 1.86 | 0.64 | 710 | 2.81 | 1.80 | 0.64 | 741 |
| 27 | 22 | 3.25 | 1.69 | 0.52 | 679 | 3.14 | 1.63 | 0.52 | 722 | 3.06 | 1.59 | 0.52 | 741 | 2.93 | 1.52 | 0.52 | 772 |
| 27 | 24 | 3.42 | 1.37 | 0.40 | 710 | 3.29 | 1.32 | 0.40 | 749 | 3.21 | 1.29 | 0.40 | 772 | 3.11 | 1.24 | 0.40 | 811 |
| 27 | 26 | 3.52 | 0.99 | 0.28 | 749 | 3.42 | 0.96 | 0.28 | 788 | 3.37 | 0.94 | 0.28 | 811 | 3.26 | 0.91 | 0.28 | 835 |
| 28 | 18 | 3.00 | 2.40 | 0.80 | 624 | 2.87 | 2.30 | 0.80 | 655 | 2.75 | 2.20 | 0.80 | 686 | 2.65 | 2.12 | 0.80 | 718 |
| 28 | 20 | 3.12 | 2.12 | 0.68 | 655 | 3.00 | 2.04 | 0.68 | 694 | 2.91 | 1.98 | 0.68 | 710 | 2.81 | 1.91 | 0.68 | 741 |
| 28 | 22 | 3.25 | 1.82 | 0.56 | 679 | 3.14 | 1.76 | 0.56 | 722 | 3.06 | 1.71 | 0.56 | 741 | 2.93 | 1.64 | 0.56 | 772 |
| 28 | 24 | 3.42 | 1.50 | 0.44 | 710 | 3.29 | 1.45 | 0.44 | 749 | 3.21 | 1.41 | 0.44 | 772 | 3.11 | 1.37 | 0.44 | 811 |
| 28 | 26 | 3.52 | 1.13 | 0.32 | 749 | 3.42 | 1.09 | 0.32 | 788 | 3.37 | 1.08 | 0.32 | 811 | 3.26 | 1.04 | 0.32 | 835 |
| 29 | 18 | 3.00 | 2.52 | 0.84 | 624 | 2.87 | 2.41 | 0.84 | 655 | 2.75 | 2.31 | 0.84 | 686 | 2.65 | 2.23 | 0.84 | 718 |
| 29 | 20 | 3.12 | 2.25 | 0.72 | 655 | 3.00 | 2.16 | 0.72 | 694 | 2.91 | 2.09 | 0.72 | 710 | 2.81 | 2.02 | 0.72 | 741 |
| 29 | 22 | 3.25 | 1.95 | 0.60 | 679 | 3.14 | 1.88 | 0.60 | 722 | 3.06 | 1.84 | 0.60 | 741 | 2.93 | 1.76 | 0.60 | 772 |
| 29 | 24 | 3.42 | 1.64 | 0.48 | 710 | 3.29 | 1.58 | 0.48 | 749 | 3.21 | 1.54 | 0.48 | 772 | 3.11 | 1.49 | 0.48 | 811 |
| 29 | 26 | 3.52 | 1.27 | 0.36 | 749 | 3.42 | 1.23 | 0.36 | 788 | 3.37 | 1.21 | 0.36 | 811 | 3.26 | 1.18 | 0.36 | 835 |
| 30 | 18 | 3.00 | 2.64 | 0.88 | 624 | 2.87 | 2.52 | 0.88 | 655 | 2.75 | 2.42 | 0.88 | 686 | 2.65 | 2.33 | 0.88 | 718 |
| 30 | 20 | 3.12 | 2.37 | 0.76 | 655 | 3.00 | 2.28 | 0.76 | 694 | 2.91 | 2.21 | 0.76 | 710 | 2.81 | 2.13 | 0.76 | 741 |
| 30 | 22 | 3.25 | 2.08 | 0.64 | 679 | 3.14 | 2.01 | 0.64 | 722 | 3.06 | 1.96 | 0.64 | 741 | 2.93 | 1.88 | 0.64 | 772 |
| 30 | 24 | 3.42 | 1.78 | 0.52 | 710 | 3.29 | 1.71 | 0.52 | 749 | 3.21 | 1.67 | 0.52 | 772 | 3.11 | 1.62 | 0.52 | 811 |
| 30 | 26 | 3.52 | 1.41 | 0.40 | 749 | 3.42 | 1.37 | 0.40 | 788 | 3.37 | 1.35 | 0.40 | 811 | 3.26 | 1.31 | 0.40 | 835 |
| 31 | 18 | 3.00 | 2.76 | 0.92 | 624 | 2.87 | 2.64 | 0.92 | 655 | 2.75 | 2.53 | 0.92 | 686 | 2.65 | 2.44 | 0.92 | 718 |
| 31 | 20 | 3.12 | 2.50 | 0.80 | 655 | 3.00 | 2.40 | 0.80 | 694 | 2.91 | 2.33 | 0.80 | 710 | 2.81 | 2.24 | 0.80 | 741 |
| 31 | 22 | 3.25 | 2.21 | 0.68 | 679 | 3.14 | 2.13 | 0.68 | 722 | 3.06 | 2.08 | 0.68 | 741 | 2.93 | 1.99 | 0.68 | 772 |
| 31 | 24 | 3.42 | 1.91 | 0.56 | 710 | 3.29 | 1.84 | 0.56 | 749 | 3.21 | 1.80 | 0.56 | 772 | 3.11 | 1.74 | 0.56 | 811 |
| 31 | 26 | 3.52 | 1.55 | 0.44 | 749 | 3.42 | 1.50 | 0.44 | 788 | 3.37 | 1.48 | 0.44 | 811 | 3.26 | 1.44 | 0.44 | 835 |
| 32 | 18 | 3.00 | 2.88 | 0.96 | 624 | 2.87 | 2.75 | 0.96 | 655 | 2.75 | 2.64 | 0.96 | 686 | 2.65 | 2.55 | 0.96 | 718 |
| 32 | 20 | 3.12 | 2.62 | 0.84 | 655 | 3.00 | 2.52 | 0.84 | 694 | 2.91 | 2.44 | 0.84 | 710 | 2.81 | 2.36 | 0.84 | 741 |
| 32 | 22 | 3.25 | 2.34 | 0.72 | 679 | 3.14 | 2.26 | 0.72 | 722 | 3.06 | 2.20 | 0.72 | 741 | 2.93 | 2.11 | 0.72 | 772 |
| 32 | 24 | 3.42 | 2.05 | 0.60 | 710 | 3.29 | 1.97 | 0.60 | 749 | 3.21 | 1.93 | 0.60 | 772 | 3.11 | 1.87 | 0.60 | 811 |
| 32 | 26 | 3.52 | 1.69 | 0.48 | 749 | 3.42 | 1.64 | 0.48 | 788 | 3.37 | 1.62 | 0.48 | 811 | 3.26 | 1.57 | 0.48 | 835 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 : MU-A09WV -E1

CAPACITY : 2.55(kW) SHF : 0.70 INPUT : 780(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.50 | 1.30 | 0.52 | 764 | 2.30 | 1.19 | 0.52 | 811 | 2.21 | 1.15 | 0.52 | 827 |
| 21 | 20 | 2.63 | 1.05 | 0.40 | 796 | 2.45 | 0.98 | 0.40 | 835 | 2.36 | 0.94 | 0.40 | 858 |
| 22 | 18 | 2.50 | 1.40 | 0.56 | 764 | 2.30 | 1.29 | 0.56 | 811 | 2.21 | 1.24 | 0.56 | 827 |
| 22 | 20 | 2.63 | 1.16 | 0.44 | 796 | 2.45 | 1.08 | 0.44 | 835 | 2.36 | 1.04 | 0.44 | 858 |
| 22 | 22 | 2.78 | 0.89 | 0.32 | 827 | 2.60 | 0.83 | 0.32 | 874 | 2.51 | 0.80 | 0.32 | 889 |
| 23 | 18 | 2.50 | 1.50 | 0.60 | 764 | 2.30 | 1.38 | 0.60 | 811 | 2.21 | 1.32 | 0.60 | 827 |
| 23 | 20 | 2.63 | 1.26 | 0.48 | 796 | 2.45 | 1.18 | 0.48 | 835 | 2.36 | 1.13 | 0.48 | 858 |
| 23 | 22 | 2.78 | 1.00 | 0.36 | 827 | 2.60 | 0.94 | 0.36 | 874 | 2.51 | 0.90 | 0.36 | 889 |
| 24 | 18 | 2.50 | 1.60 | 0.64 | 764 | 2.30 | 1.47 | 0.64 | 811 | 2.21 | 1.41 | 0.64 | 827 |
| 24 | 20 | 2.63 | 1.37 | 0.52 | 796 | 2.45 | 1.27 | 0.52 | 835 | 2.36 | 1.23 | 0.52 | 858 |
| 24 | 22 | 2.78 | 1.11 | 0.40 | 827 | 2.60 | 1.04 | 0.40 | 874 | 2.51 | 1.00 | 0.40 | 889 |
| 24 | 24 | 2.93 | 0.82 | 0.28 | 858 | 2.75 | 0.77 | 0.28 | 897 | 2.68 | 0.75 | 0.28 | 917 |
| 25 | 18 | 2.50 | 1.70 | 0.68 | 764 | 2.30 | 1.56 | 0.68 | 811 | 2.21 | 1.50 | 0.68 | 827 |
| 25 | 20 | 2.63 | 1.47 | 0.56 | 796 | 2.45 | 1.37 | 0.56 | 835 | 2.36 | 1.32 | 0.56 | 858 |
| 25 | 22 | 2.78 | 1.22 | 0.44 | 827 | 2.60 | 1.14 | 0.44 | 874 | 2.51 | 1.11 | 0.44 | 889 |
| 25 | 24 | 2.93 | 0.94 | 0.32 | 858 | 2.75 | 0.88 | 0.32 | 897 | 2.68 | 0.86 | 0.32 | 917 |
| 26 | 18 | 2.50 | 1.80 | 0.72 | 764 | 2.30 | 1.65 | 0.72 | 811 | 2.21 | 1.59 | 0.72 | 827 |
| 26 | 20 | 2.63 | 1.58 | 0.60 | 796 | 2.45 | 1.47 | 0.60 | 835 | 2.36 | 1.42 | 0.60 | 858 |
| 26 | 22 | 2.78 | 1.33 | 0.48 | 827 | 2.60 | 1.25 | 0.48 | 874 | 2.51 | 1.21 | 0.48 | 889 |
| 26 | 24 | 2.93 | 1.06 | 0.36 | 858 | 2.75 | 0.99 | 0.36 | 897 | 2.68 | 0.96 | 0.36 | 917 |
| 26 | 26 | 3.09 | 0.74 | 0.24 | 889 | 2.91 | 0.70 | 0.24 | 928 | 2.82 | 0.68 | 0.24 | 948 |
| 27 | 18 | 2.50 | 1.90 | 0.76 | 764 | 2.30 | 1.74 | 0.76 | 811 | 2.21 | 1.68 | 0.76 | 827 |
| 27 | 20 | 2.63 | 1.68 | 0.64 | 796 | 2.45 | 1.57 | 0.64 | 835 | 2.36 | 1.51 | 0.64 | 858 |
| 27 | 22 | 2.78 | 1.45 | 0.52 | 827 | 2.60 | 1.35 | 0.52 | 874 | 2.51 | 1.31 | 0.52 | 889 |
| 27 | 24 | 2.93 | 1.17 | 0.40 | 858 | 2.75 | 1.10 | 0.40 | 897 | 2.68 | 1.07 | 0.40 | 917 |
| 27 | 26 | 3.09 | 0.86 | 0.28 | 889 | 2.91 | 0.81 | 0.28 | 928 | 2.82 | 0.79 | 0.28 | 948 |
| 28 | 18 | 2.50 | 2.00 | 0.80 | 764 | 2.30 | 1.84 | 0.80 | 811 | 2.21 | 1.76 | 0.80 | 827 |
| 28 | 20 | 2.63 | 1.79 | 0.68 | 796 | 2.45 | 1.66 | 0.68 | 835 | 2.36 | 1.60 | 0.68 | 858 |
| 28 | 22 | 2.78 | 1.56 | 0.56 | 827 | 2.60 | 1.46 | 0.56 | 874 | 2.51 | 1.41 | 0.56 | 889 |
| 28 | 24 | 2.93 | 1.29 | 0.44 | 858 | 2.75 | 1.21 | 0.44 | 897 | 2.68 | 1.18 | 0.44 | 917 |
| 28 | 26 | 3.09 | 0.99 | 0.32 | 889 | 2.91 | 0.93 | 0.32 | 928 | 2.82 | 0.90 | 0.32 | 948 |
| 29 | 18 | 2.50 | 2.10 | 0.84 | 764 | 2.30 | 1.93 | 0.84 | 811 | 2.21 | 1.85 | 0.84 | 827 |
| 29 | 20 | 2.63 | 1.89 | 0.72 | 796 | 2.45 | 1.76 | 0.72 | 835 | 2.36 | 1.70 | 0.72 | 858 |
| 29 | 22 | 2.78 | 1.67 | 0.60 | 827 | 2.60 | 1.56 | 0.60 | 874 | 2.51 | 1.51 | 0.60 | 889 |
| 29 | 24 | 2.93 | 1.41 | 0.48 | 858 | 2.75 | 1.32 | 0.48 | 897 | 2.68 | 1.29 | 0.48 | 917 |
| 29 | 26 | 3.09 | 1.11 | 0.36 | 889 | 2.91 | 1.05 | 0.36 | 928 | 2.82 | 1.01 | 0.36 | 948 |
| 30 | 18 | 2.50 | 2.20 | 0.88 | 764 | 2.30 | 2.02 | 0.88 | 811 | 2.21 | 1.94 | 0.88 | 827 |
| 30 | 20 | 2.63 | 2.00 | 0.76 | 796 | 2.45 | 1.86 | 0.76 | 835 | 2.36 | 1.79 | 0.76 | 858 |
| 30 | 22 | 2.78 | 1.78 | 0.64 | 827 | 2.60 | 1.66 | 0.64 | 874 | 2.51 | 1.61 | 0.64 | 889 |
| 30 | 24 | 2.93 | 1.52 | 0.52 | 858 | 2.75 | 1.43 | 0.52 | 897 | 2.68 | 1.39 | 0.52 | 917 |
| 30 | 26 | 3.09 | 1.23 | 0.40 | 889 | 2.91 | 1.16 | 0.40 | 928 | 2.82 | 1.13 | 0.40 | 948 |
| 31 | 18 | 2.50 | 2.30 | 0.92 | 764 | 2.30 | 2.11 | 0.92 | 811 | 2.21 | 2.03 | 0.92 | 827 |
| 31 | 20 | 2.63 | 2.10 | 0.80 | 796 | 2.45 | 1.96 | 0.80 | 835 | 2.36 | 1.89 | 0.80 | 858 |
| 31 | 22 | 2.78 | 1.89 | 0.68 | 827 | 2.60 | 1.77 | 0.68 | 874 | 2.51 | 1.71 | 0.68 | 889 |
| 31 | 24 | 2.93 | 1.64 | 0.56 | 858 | 2.75 | 1.54 | 0.56 | 897 | 2.68 | 1.50 | 0.56 | 917 |
| 31 | 26 | 3.09 | 1.36 | 0.44 | 889 | 2.91 | 1.28 | 0.44 | 928 | 2.82 | 1.24 | 0.44 | 948 |
| 32 | 18 | 2.50 | 2.40 | 0.96 | 764 | 2.30 | 2.20 | 0.96 | 811 | 2.21 | 2.12 | 0.96 | 827 |
| 32 | 20 | 2.63 | 2.21 | 0.84 | 796 | 2.45 | 2.06 | 0.84 | 835 | 2.36 | 1.98 | 0.84 | 858 |
| 32 | 22 | 2.78 | 2.00 | 0.72 | 827 | 2.60 | 1.87 | 0.72 | 874 | 2.51 | 1.81 | 0.72 | 889 |
| 32 | 24 | 2.93 | 1.76 | 0.60 | 858 | 2.75 | 1.65 | 0.60 | 897 | 2.68 | 1.61 | 0.60 | 917 |
| 32 | 26 | 3.09 | 1.48 | 0.48 | 889 | 2.91 | 1.40 | 0.48 | 928 | 2.82 | 1.35 | 0.48 | 948 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 : MU-A12WV -E1

CAPACITY : 3.45(kW) SHF : 0.67 INPUT : 1140(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 4.05 | 1.99 | 0.49 | 912 | 3.88 | 1.90 | 0.49 | 958 | 3.73 | 1.83 | 0.49 | 1003 | 3.59 | 1.76 | 0.49 | 1049 |
| 21 | 20 | 4.23 | 1.56 | 0.37 | 958 | 4.05 | 1.50 | 0.37 | 1015 | 3.93 | 1.46 | 0.37 | 1037 | 3.80 | 1.40 | 0.37 | 1083 |
| 22 | 18 | 4.05 | 2.15 | 0.53 | 912 | 3.88 | 2.06 | 0.53 | 958 | 3.73 | 1.97 | 0.53 | 1003 | 3.59 | 1.90 | 0.53 | 1049 |
| 22 | 20 | 4.23 | 1.73 | 0.41 | 958 | 4.05 | 1.66 | 0.41 | 1015 | 3.93 | 1.61 | 0.41 | 1037 | 3.80 | 1.56 | 0.41 | 1083 |
| 22 | 22 | 4.40 | 1.28 | 0.29 | 992 | 4.24 | 1.23 | 0.29 | 1055 | 4.14 | 1.20 | 0.29 | 1083 | 3.97 | 1.15 | 0.29 | 1129 |
| 23 | 18 | 4.05 | 2.31 | 0.57 | 912 | 3.88 | 2.21 | 0.57 | 958 | 3.73 | 2.12 | 0.57 | 1003 | 3.59 | 2.05 | 0.57 | 1049 |
| 23 | 20 | 4.23 | 1.90 | 0.45 | 958 | 4.05 | 1.82 | 0.45 | 1015 | 3.93 | 1.77 | 0.45 | 1037 | 3.80 | 1.71 | 0.45 | 1083 |
| 23 | 22 | 4.40 | 1.45 | 0.33 | 992 | 4.24 | 1.40 | 0.33 | 1055 | 4.14 | 1.37 | 0.33 | 1083 | 3.97 | 1.31 | 0.33 | 1129 |
| 24 | 18 | 4.05 | 2.47 | 0.61 | 912 | 3.88 | 2.37 | 0.61 | 958 | 3.73 | 2.27 | 0.61 | 1003 | 3.59 | 2.19 | 0.61 | 1049 |
| 24 | 20 | 4.23 | 2.07 | 0.49 | 958 | 4.05 | 1.99 | 0.49 | 1015 | 3.93 | 1.93 | 0.49 | 1037 | 3.80 | 1.86 | 0.49 | 1083 |
| 24 | 22 | 4.40 | 1.63 | 0.37 | 992 | 4.24 | 1.57 | 0.37 | 1055 | 4.14 | 1.53 | 0.37 | 1083 | 3.97 | 1.47 | 0.37 | 1129 |
| 24 | 24 | 4.62 | 1.16 | 0.25 | 1037 | 4.45 | 1.11 | 0.25 | 1094 | 4.35 | 1.09 | 0.25 | 1129 | 4.21 | 1.05 | 0.25 | 1186 |
| 25 | 18 | 4.05 | 2.63 | 0.65 | 912 | 3.88 | 2.52 | 0.65 | 958 | 3.73 | 2.42 | 0.65 | 1003 | 3.59 | 2.33 | 0.65 | 1049 |
| 25 | 20 | 4.23 | 2.24 | 0.53 | 958 | 4.05 | 2.15 | 0.53 | 1015 | 3.93 | 2.08 | 0.53 | 1037 | 3.80 | 2.01 | 0.53 | 1083 |
| 25 | 22 | 4.40 | 1.80 | 0.41 | 992 | 4.24 | 1.74 | 0.41 | 1055 | 4.14 | 1.70 | 0.41 | 1083 | 3.97 | 1.63 | 0.41 | 1129 |
| 25 | 24 | 4.62 | 1.34 | 0.29 | 1037 | 4.45 | 1.29 | 0.29 | 1094 | 4.35 | 1.26 | 0.29 | 1129 | 4.21 | 1.22 | 0.29 | 1186 |
| 26 | 18 | 4.05 | 2.80 | 0.69 | 912 | 3.88 | 2.68 | 0.69 | 958 | 3.73 | 2.57 | 0.69 | 1003 | 3.59 | 2.48 | 0.69 | 1049 |
| 26 | 20 | 4.23 | 2.41 | 0.57 | 958 | 4.05 | 2.31 | 0.57 | 1015 | 3.93 | 2.24 | 0.57 | 1037 | 3.80 | 2.16 | 0.57 | 1083 |
| 26 | 22 | 4.40 | 1.98 | 0.45 | 992 | 4.24 | 1.91 | 0.45 | 1055 | 4.14 | 1.86 | 0.45 | 1083 | 3.97 | 1.79 | 0.45 | 1129 |
| 26 | 24 | 4.62 | 1.53 | 0.33 | 1037 | 4.45 | 1.47 | 0.33 | 1094 | 4.35 | 1.43 | 0.33 | 1129 | 4.21 | 1.39 | 0.33 | 1186 |
| 26 | 26 | 4.76 | 1.00 | 0.21 | 1094 | 4.62 | 0.97 | 0.21 | 1151 | 4.55 | 0.96 | 0.21 | 1186 | 4.42 | 0.93 | 0.21 | 1220 |
| 27 | 18 | 4.05 | 2.96 | 0.73 | 912 | 3.88 | 2.83 | 0.73 | 958 | 3.73 | 2.72 | 0.73 | 1003 | 3.59 | 2.62 | 0.73 | 1049 |
| 27 | 20 | 4.23 | 2.58 | 0.61 | 958 | 4.05 | 2.47 | 0.61 | 1015 | 3.93 | 2.40 | 0.61 | 1037 | 3.80 | 2.31 | 0.61 | 1083 |
| 27 | 22 | 4.40 | 2.16 | 0.49 | 992 | 4.24 | 2.08 | 0.49 | 1055 | 4.14 | 2.03 | 0.49 | 1083 | 3.97 | 1.94 | 0.49 | 1129 |
| 27 | 24 | 4.62 | 1.71 | 0.37 | 1037 | 4.45 | 1.65 | 0.37 | 1094 | 4.35 | 1.61 | 0.37 | 1129 | 4.21 | 1.56 | 0.37 | 1186 |
| 27 | 26 | 4.76 | 1.19 | 0.25 | 1094 | 4.62 | 1.16 | 0.25 | 1151 | 4.55 | 1.14 | 0.25 | 1186 | 4.42 | 1.10 | 0.25 | 1220 |
| 28 | 18 | 4.05 | 3.12 | 0.77 | 912 | 3.88 | 2.99 | 0.77 | 958 | 3.73 | 2.87 | 0.77 | 1003 | 3.59 | 2.76 | 0.77 | 1049 |
| 28 | 20 | 4.23 | 2.75 | 0.65 | 958 | 4.05 | 2.63 | 0.65 | 1015 | 3.93 | 2.56 | 0.65 | 1037 | 3.80 | 2.47 | 0.65 | 1083 |
| 28 | 22 | 4.40 | 2.33 | 0.53 | 992 | 4.24 | 2.25 | 0.53 | 1055 | 4.14 | 2.19 | 0.53 | 1083 | 3.97 | 2.10 | 0.53 | 1129 |
| 28 | 24 | 4.62 | 1.90 | 0.41 | 1037 | 4.45 | 1.82 | 0.41 | 1094 | 4.35 | 1.78 | 0.41 | 1129 | 4.21 | 1.73 | 0.41 | 1186 |
| 28 | 26 | 4.76 | 1.38 | 0.29 | 1094 | 4.62 | 1.34 | 0.29 | 1151 | 4.55 | 1.32 | 0.29 | 1186 | 4.42 | 1.28 | 0.29 | 1220 |
| 29 | 18 | 4.05 | 3.28 | 0.81 | 912 | 3.88 | 3.14 | 0.81 | 958 | 3.73 | 3.02 | 0.81 | 1003 | 3.59 | 2.91 | 0.81 | 1049 |
| 29 | 20 | 4.23 | 2.92 | 0.69 | 958 | 4.05 | 2.80 | 0.69 | 1015 | 3.93 | 2.71 | 0.69 | 1037 | 3.80 | 2.62 | 0.69 | 1083 |
| 29 | 22 | 4.40 | 2.51 | 0.57 | 992 | 4.24 | 2.42 | 0.57 | 1055 | 4.14 | 2.36 | 0.57 | 1083 | 3.97 | 2.26 | 0.57 | 1129 |
| 29 | 24 | 4.62 | 2.08 | 0.45 | 1037 | 4.45 | 2.00 | 0.45 | 1094 | 4.35 | 1.96 | 0.45 | 1129 | 4.21 | 1.89 | 0.45 | 1186 |
| 29 | 26 | 4.76 | 1.57 | 0.33 | 1094 | 4.62 | 1.53 | 0.33 | 1151 | 4.55 | 1.50 | 0.33 | 1186 | 4.42 | 1.46 | 0.33 | 1220 |
| 30 | 18 | 4.05 | 3.45 | 0.85 | 912 | 3.88 | 3.30 | 0.85 | 958 | 3.73 | 3.17 | 0.85 | 1003 | 3.59 | 3.05 | 0.85 | 1049 |
| 30 | 20 | 4.23 | 3.09 | 0.73 | 958 | 4.05 | 2.96 | 0.73 | 1015 | 3.93 | 2.87 | 0.73 | 1037 | 3.80 | 2.77 | 0.73 | 1083 |
| 30 | 22 | 4.40 | 2.68 | 0.61 | 992 | 4.24 | 2.59 | 0.61 | 1055 | 4.14 | 2.53 | 0.61 | 1083 | 3.97 | 2.42 | 0.61 | 1129 |
| 30 | 24 | 4.62 | 2.27 | 0.49 | 1037 | 4.45 | 2.18 | 0.49 | 1094 | 4.35 | 2.13 | 0.49 | 1129 | 4.21 | 2.06 | 0.49 | 1186 |
| 30 | 26 | 4.76 | 1.76 | 0.37 | 1094 | 4.62 | 1.71 | 0.37 | 1151 | 4.55 | 1.68 | 0.37 | 1186 | 4.42 | 1.63 | 0.37 | 1220 |
| 31 | 18 | 4.05 | 3.61 | 0.89 | 912 | 3.88 | 3.45 | 0.89 | 958 | 3.73 | 3.32 | 0.89 | 1003 | 3.59 | 3.19 | 0.89 | 1049 |
| 31 | 20 | 4.23 | 3.25 | 0.77 | 958 | 4.05 | 3.12 | 0.77 | 1015 | 3.93 | 3.03 | 0.77 | 1037 | 3.80 | 2.92 | 0.77 | 1083 |
| 31 | 22 | 4.40 | 2.86 | 0.65 | 992 | 4.24 | 2.76 | 0.65 | 1055 | 4.14 | 2.69 | 0.65 | 1083 | 3.97 | 2.58 | 0.65 | 1129 |
| 31 | 24 | 4.62 | 2.45 | 0.53 | 1037 | 4.45 | 2.36 | 0.53 | 1094 | 4.35 | 2.30 | 0.53 | 1129 | 4.21 | 2.23 | 0.53 | 1186 |
| 31 | 26 | 4.76 | 1.95 | 0.41 | 1094 | 4.62 | 1.90 | 0.41 | 1151 | 4.55 | 1.87 | 0.41 | 1186 | 4.42 | 1.81 | 0.41 | 1220 |
| 32 | 18 | 4.05 | 3.77 | 0.93 | 912 | 3.88 | 3.61 | 0.93 | 958 | 3.73 | 3.47 | 0.93 | 1003 | 3.59 | 3.34 | 0.93 | 1049 |
| 32 | 20 | 4.23 | 3.42 | 0.81 | 958 | 4.05 | 3.28 | 0.81 | 1015 | 3.93 | 3.19 | 0.81 | 1037 | 3.80 | 3.07 | 0.81 | 1083 |
| 32 | 22 | 4.40 | 3.04 | 0.69 | 992 | 4.24 | 2.93 | 0.69 | 1055 | 4.14 | 2.86 | 0.69 | 1083 | 3.97 | 2.74 | 0.69 | 1129 |
| 32 | 24 | 4.62 | 2.64 | 0.57 | 1037 | 4.45 | 2.54 | 0.57 | 1094 | 4.35 | 2.48 | 0.57 | 1129 | 4.21 | 2.40 | 0.57 | 1186 |
| 32 | 26 | 4.76 | 2.14 | 0.45 | 1094 | 4.62 | 2.08 | 0.45 | 1151 | 4.55 | 2.05 | 0.45 | 1186 | 4.42 | 1.99 | 0.45 | 1220 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 : MU-A12WV -E1

CAPACITY : 3.45(kW) SHF : 0.67 INPUT : 1140(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.38 | 1.66 | 0.49 | 1117 | 3.11 | 1.52 | 0.49 | 1186 | 2.98 | 1.46 | 0.49 | 1208 |
| 21 | 20 | 3.55 | 1.31 | 0.37 | 1163 | 3.31 | 1.23 | 0.37 | 1220 | 3.19 | 1.18 | 0.37 | 1254 |
| 22 | 18 | 3.38 | 1.79 | 0.53 | 1117 | 3.11 | 1.65 | 0.53 | 1186 | 2.98 | 1.58 | 0.53 | 1208 |
| 22 | 20 | 3.55 | 1.46 | 0.41 | 1163 | 3.31 | 1.36 | 0.41 | 1220 | 3.19 | 1.31 | 0.41 | 1254 |
| 22 | 22 | 3.76 | 1.09 | 0.29 | 1208 | 3.52 | 1.02 | 0.29 | 1277 | 3.40 | 0.99 | 0.29 | 1300 |
| 23 | 18 | 3.38 | 1.93 | 0.57 | 1117 | 3.11 | 1.77 | 0.57 | 1186 | 2.98 | 1.70 | 0.57 | 1208 |
| 23 | 20 | 3.55 | 1.60 | 0.45 | 1163 | 3.31 | 1.49 | 0.45 | 1220 | 3.19 | 1.44 | 0.45 | 1254 |
| 23 | 22 | 3.76 | 1.24 | 0.33 | 1208 | 3.52 | 1.16 | 0.33 | 1277 | 3.40 | 1.12 | 0.33 | 1300 |
| 24 | 18 | 3.38 | 2.06 | 0.61 | 1117 | 3.11 | 1.89 | 0.61 | 1186 | 2.98 | 1.82 | 0.61 | 1208 |
| 24 | 20 | 3.55 | 1.74 | 0.49 | 1163 | 3.31 | 1.62 | 0.49 | 1220 | 3.19 | 1.56 | 0.49 | 1254 |
| 24 | 22 | 3.76 | 1.39 | 0.37 | 1208 | 3.52 | 1.30 | 0.37 | 1277 | 3.40 | 1.26 | 0.37 | 1300 |
| 24 | 24 | 3.97 | 0.99 | 0.25 | 1254 | 3.73 | 0.93 | 0.25 | 1311 | 3.62 | 0.91 | 0.25 | 1340 |
| 25 | 18 | 3.38 | 2.20 | 0.65 | 1117 | 3.11 | 2.02 | 0.65 | 1186 | 2.98 | 1.94 | 0.65 | 1208 |
| 25 | 20 | 3.55 | 1.88 | 0.53 | 1163 | 3.31 | 1.76 | 0.53 | 1220 | 3.19 | 1.69 | 0.53 | 1254 |
| 25 | 22 | 3.76 | 1.54 | 0.41 | 1208 | 3.52 | 1.44 | 0.41 | 1277 | 3.40 | 1.39 | 0.41 | 1300 |
| 25 | 24 | 3.97 | 1.15 | 0.29 | 1254 | 3.73 | 1.08 | 0.29 | 1311 | 3.62 | 1.05 | 0.29 | 1340 |
| 26 | 18 | 3.38 | 2.33 | 0.69 | 1117 | 3.11 | 2.14 | 0.69 | 1186 | 2.98 | 2.06 | 0.69 | 1208 |
| 26 | 20 | 3.55 | 2.03 | 0.57 | 1163 | 3.31 | 1.89 | 0.57 | 1220 | 3.19 | 1.82 | 0.57 | 1254 |
| 26 | 22 | 3.76 | 1.69 | 0.45 | 1208 | 3.52 | 1.58 | 0.45 | 1277 | 3.40 | 1.53 | 0.45 | 1300 |
| 26 | 24 | 3.97 | 1.31 | 0.33 | 1254 | 3.73 | 1.23 | 0.33 | 1311 | 3.62 | 1.20 | 0.33 | 1340 |
| 26 | 26 | 4.17 | 0.88 | 0.21 | 1300 | 3.93 | 0.83 | 0.21 | 1357 | 3.81 | 0.80 | 0.21 | 1385 |
| 27 | 18 | 3.38 | 2.47 | 0.73 | 1117 | 3.11 | 2.27 | 0.73 | 1186 | 2.98 | 2.18 | 0.73 | 1208 |
| 27 | 20 | 3.55 | 2.17 | 0.61 | 1163 | 3.31 | 2.02 | 0.61 | 1220 | 3.19 | 1.95 | 0.61 | 1254 |
| 27 | 22 | 3.76 | 1.84 | 0.49 | 1208 | 3.52 | 1.72 | 0.49 | 1277 | 3.40 | 1.67 | 0.49 | 1300 |
| 27 | 24 | 3.97 | 1.47 | 0.37 | 1254 | 3.73 | 1.38 | 0.37 | 1311 | 3.62 | 1.34 | 0.37 | 1340 |
| 27 | 26 | 4.17 | 1.04 | 0.25 | 1300 | 3.93 | 0.98 | 0.25 | 1357 | 3.81 | 0.95 | 0.25 | 1385 |
| 28 | 18 | 3.38 | 2.60 | 0.77 | 1117 | 3.11 | 2.39 | 0.77 | 1186 | 2.98 | 2.30 | 0.77 | 1208 |
| 28 | 20 | 3.55 | 2.31 | 0.65 | 1163 | 3.31 | 2.15 | 0.65 | 1220 | 3.19 | 2.07 | 0.65 | 1254 |
| 28 | 22 | 3.76 | 1.99 | 0.53 | 1208 | 3.52 | 1.87 | 0.53 | 1277 | 3.40 | 1.80 | 0.53 | 1300 |
| 28 | 24 | 3.97 | 1.63 | 0.41 | 1254 | 3.73 | 1.53 | 0.41 | 1311 | 3.62 | 1.49 | 0.41 | 1340 |
| 28 | 26 | 4.17 | 1.21 | 0.29 | 1300 | 3.93 | 1.14 | 0.29 | 1357 | 3.81 | 1.11 | 0.29 | 1385 |
| 29 | 18 | 3.38 | 2.74 | 0.81 | 1117 | 3.11 | 2.52 | 0.81 | 1186 | 2.98 | 2.42 | 0.81 | 1208 |
| 29 | 20 | 3.55 | 2.45 | 0.69 | 1163 | 3.31 | 2.29 | 0.69 | 1220 | 3.19 | 2.20 | 0.69 | 1254 |
| 29 | 22 | 3.76 | 2.14 | 0.57 | 1208 | 3.52 | 2.01 | 0.57 | 1277 | 3.40 | 1.94 | 0.57 | 1300 |
| 29 | 24 | 3.97 | 1.79 | 0.45 | 1254 | 3.73 | 1.68 | 0.45 | 1311 | 3.62 | 1.63 | 0.45 | 1340 |
| 29 | 26 | 4.17 | 1.38 | 0.33 | 1300 | 3.93 | 1.30 | 0.33 | 1357 | 3.81 | 1.26 | 0.33 | 1385 |
| 30 | 18 | 3.38 | 2.87 | 0.85 | 1117 | 3.11 | 2.64 | 0.85 | 1186 | 2.98 | 2.54 | 0.85 | 1208 |
| 30 | 20 | 3.55 | 2.59 | 0.73 | 1163 | 3.31 | 2.42 | 0.73 | 1220 | 3.19 | 2.33 | 0.73 | 1254 |
| 30 | 22 | 3.76 | 2.29 | 0.61 | 1208 | 3.52 | 2.15 | 0.61 | 1277 | 3.40 | 2.07 | 0.61 | 1300 |
| 30 | 24 | 3.97 | 1.94 | 0.49 | 1254 | 3.73 | 1.83 | 0.49 | 1311 | 3.62 | 1.78 | 0.49 | 1340 |
| 30 | 26 | 4.17 | 1.54 | 0.37 | 1300 | 3.93 | 1.46 | 0.37 | 1357 | 3.81 | 1.41 | 0.37 | 1385 |
| 31 | 18 | 3.38 | 3.01 | 0.89 | 1117 | 3.11 | 2.76 | 0.89 | 1186 | 2.98 | 2.66 | 0.89 | 1208 |
| 31 | 20 | 3.55 | 2.74 | 0.77 | 1163 | 3.31 | 2.55 | 0.77 | 1220 | 3.19 | 2.46 | 0.77 | 1254 |
| 31 | 22 | 3.76 | 2.44 | 0.65 | 1208 | 3.52 | 2.29 | 0.65 | 1277 | 3.40 | 2.21 | 0.65 | 1300 |
| 31 | 24 | 3.97 | 2.10 | 0.53 | 1254 | 3.73 | 1.97 | 0.53 | 1311 | 3.62 | 1.92 | 0.53 | 1340 |
| 31 | 26 | 4.17 | 1.71 | 0.41 | 1300 | 3.93 | 1.61 | 0.41 | 1357 | 3.81 | 1.56 | 0.41 | 1385 |
| 32 | 18 | 3.38 | 3.14 | 0.93 | 1117 | 3.11 | 2.89 | 0.93 | 1186 | 2.98 | 2.78 | 0.93 | 1208 |
| 32 | 20 | 3.55 | 2.88 | 0.81 | 1163 | 3.31 | 2.68 | 0.81 | 1220 | 3.19 | 2.58 | 0.81 | 1254 |
| 32 | 22 | 3.76 | 2.59 | 0.69 | 1208 | 3.52 | 2.43 | 0.69 | 1277 | 3.40 | 2.34 | 0.69 | 1300 |
| 32 | 24 | 3.97 | 2.26 | 0.57 | 1254 | 3.73 | 2.12 | 0.57 | 1311 | 3.62 | 2.06 | 0.57 | 1340 |
| 32 | 26 | 4.17 | 1.88 | 0.45 | 1300 | 3.93 | 1.77 | 0.45 | 1357 | 3.81 | 1.72 | 0.45 | 1385 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1 : MUH-A07WV -E1

CAPACITY : 2.3(kW) SHF : 0.74 INPUT : 710(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.70 | 1.51 | 0.56 | 568 | 2.59 | 1.45 | 0.56 | 596 | 2.48 | 1.39 | 0.56 | 625 | 2.39 | 1.34 | 0.56 | 653 |
| 21 | 20 | 2.82 | 1.24 | 0.44 | 596 | 2.70 | 1.19 | 0.44 | 632 | 2.62 | 1.15 | 0.44 | 646 | 2.53 | 1.11 | 0.44 | 675 |
| 22 | 18 | 2.70 | 1.62 | 0.60 | 568 | 2.59 | 1.55 | 0.60 | 596 | 2.48 | 1.49 | 0.60 | 625 | 2.39 | 1.44 | 0.60 | 653 |
| 22 | 20 | 2.82 | 1.35 | 0.48 | 596 | 2.70 | 1.30 | 0.48 | 632 | 2.62 | 1.26 | 0.48 | 646 | 2.53 | 1.21 | 0.48 | 675 |
| 22 | 22 | 2.93 | 1.06 | 0.36 | 618 | 2.83 | 1.02 | 0.36 | 657 | 2.76 | 0.99 | 0.36 | 675 | 2.65 | 0.95 | 0.36 | 703 |
| 23 | 18 | 2.70 | 1.73 | 0.64 | 568 | 2.59 | 1.66 | 0.64 | 596 | 2.48 | 1.59 | 0.64 | 625 | 2.39 | 1.53 | 0.64 | 653 |
| 23 | 20 | 2.82 | 1.47 | 0.52 | 596 | 2.70 | 1.41 | 0.52 | 632 | 2.62 | 1.36 | 0.52 | 646 | 2.53 | 1.32 | 0.52 | 675 |
| 23 | 22 | 2.93 | 1.17 | 0.40 | 618 | 2.83 | 1.13 | 0.40 | 657 | 2.76 | 1.10 | 0.40 | 675 | 2.65 | 1.06 | 0.40 | 703 |
| 24 | 18 | 2.70 | 1.84 | 0.68 | 568 | 2.59 | 1.76 | 0.68 | 596 | 2.48 | 1.69 | 0.68 | 625 | 2.39 | 1.63 | 0.68 | 653 |
| 24 | 20 | 2.82 | 1.58 | 0.56 | 596 | 2.70 | 1.51 | 0.56 | 632 | 2.62 | 1.47 | 0.56 | 646 | 2.53 | 1.42 | 0.56 | 675 |
| 24 | 22 | 2.93 | 1.29 | 0.44 | 618 | 2.83 | 1.24 | 0.44 | 657 | 2.76 | 1.21 | 0.44 | 675 | 2.65 | 1.16 | 0.44 | 703 |
| 24 | 24 | 3.08 | 0.99 | 0.32 | 646 | 2.97 | 0.95 | 0.32 | 682 | 2.90 | 0.93 | 0.32 | 703 | 2.81 | 0.90 | 0.32 | 738 |
| 25 | 18 | 2.70 | 1.95 | 0.72 | 568 | 2.59 | 1.86 | 0.72 | 596 | 2.48 | 1.79 | 0.72 | 625 | 2.39 | 1.72 | 0.72 | 653 |
| 25 | 20 | 2.82 | 1.69 | 0.60 | 596 | 2.70 | 1.62 | 0.60 | 632 | 2.62 | 1.57 | 0.60 | 646 | 2.53 | 1.52 | 0.60 | 675 |
| 25 | 22 | 2.93 | 1.41 | 0.48 | 618 | 2.83 | 1.36 | 0.48 | 657 | 2.76 | 1.32 | 0.48 | 675 | 2.65 | 1.27 | 0.48 | 703 |
| 25 | 24 | 3.08 | 1.11 | 0.36 | 646 | 2.97 | 1.07 | 0.36 | 682 | 2.90 | 1.04 | 0.36 | 703 | 2.81 | 1.01 | 0.36 | 738 |
| 26 | 18 | 2.70 | 2.05 | 0.76 | 568 | 2.59 | 1.97 | 0.76 | 596 | 2.48 | 1.89 | 0.76 | 625 | 2.39 | 1.82 | 0.76 | 653 |
| 26 | 20 | 2.82 | 1.80 | 0.64 | 596 | 2.70 | 1.73 | 0.64 | 632 | 2.62 | 1.68 | 0.64 | 646 | 2.53 | 1.62 | 0.64 | 675 |
| 26 | 22 | 2.93 | 1.52 | 0.52 | 618 | 2.83 | 1.47 | 0.52 | 657 | 2.76 | 1.44 | 0.52 | 675 | 2.65 | 1.38 | 0.52 | 703 |
| 26 | 24 | 3.08 | 1.23 | 0.40 | 646 | 2.97 | 1.19 | 0.40 | 682 | 2.90 | 1.16 | 0.40 | 703 | 2.81 | 1.12 | 0.40 | 738 |
| 26 | 26 | 3.17 | 0.89 | 0.28 | 682 | 3.08 | 0.86 | 0.28 | 717 | 3.04 | 0.85 | 0.28 | 738 | 2.94 | 0.82 | 0.28 | 760 |
| 27 | 18 | 2.70 | 2.16 | 0.80 | 568 | 2.59 | 2.07 | 0.80 | 596 | 2.48 | 1.99 | 0.80 | 625 | 2.39 | 1.91 | 0.80 | 653 |
| 27 | 20 | 2.82 | 1.92 | 0.68 | 596 | 2.70 | 1.84 | 0.68 | 632 | 2.62 | 1.78 | 0.68 | 646 | 2.53 | 1.72 | 0.68 | 675 |
| 27 | 22 | 2.93 | 1.64 | 0.56 | 618 | 2.83 | 1.58 | 0.56 | 657 | 2.76 | 1.55 | 0.56 | 675 | 2.65 | 1.48 | 0.56 | 703 |
| 27 | 24 | 3.08 | 1.36 | 0.44 | 646 | 2.97 | 1.31 | 0.44 | 682 | 2.90 | 1.28 | 0.44 | 703 | 2.81 | 1.23 | 0.44 | 738 |
| 27 | 26 | 3.17 | 1.02 | 0.32 | 682 | 3.08 | 0.99 | 0.32 | 717 | 3.04 | 0.97 | 0.32 | 738 | 2.94 | 0.94 | 0.32 | 760 |
| 28 | 18 | 2.70 | 2.27 | 0.84 | 568 | 2.59 | 2.17 | 0.84 | 596 | 2.48 | 2.09 | 0.84 | 625 | 2.39 | 2.01 | 0.84 | 653 |
| 28 | 20 | 2.82 | 2.03 | 0.72 | 596 | 2.70 | 1.95 | 0.72 | 632 | 2.62 | 1.89 | 0.72 | 646 | 2.53 | 1.82 | 0.72 | 675 |
| 28 | 22 | 2.93 | 1.76 | 0.60 | 618 | 2.83 | 1.70 | 0.60 | 657 | 2.76 | 1.66 | 0.60 | 675 | 2.65 | 1.59 | 0.60 | 703 |
| 28 | 24 | 3.08 | 1.48 | 0.48 | 646 | 2.97 | 1.42 | 0.48 | 682 | 2.90 | 1.39 | 0.48 | 703 | 2.81 | 1.35 | 0.48 | 738 |
| 28 | 26 | 3.17 | 1.14 | 0.36 | 682 | 3.08 | 1.11 | 0.36 | 717 | 3.04 | 1.09 | 0.36 | 738 | 2.94 | 1.06 | 0.36 | 760 |
| 29 | 18 | 2.70 | 2.38 | 0.88 | 568 | 2.59 | 2.28 | 0.88 | 596 | 2.48 | 2.19 | 0.88 | 625 | 2.39 | 2.10 | 0.88 | 653 |
| 29 | 20 | 2.82 | 2.14 | 0.76 | 596 | 2.70 | 2.05 | 0.76 | 632 | 2.62 | 1.99 | 0.76 | 646 | 2.53 | 1.92 | 0.76 | 675 |
| 29 | 22 | 2.93 | 1.88 | 0.64 | 618 | 2.83 | 1.81 | 0.64 | 657 | 2.76 | 1.77 | 0.64 | 675 | 2.65 | 1.69 | 0.64 | 703 |
| 29 | 24 | 3.08 | 1.60 | 0.52 | 646 | 2.97 | 1.54 | 0.52 | 682 | 2.90 | 1.51 | 0.52 | 703 | 2.81 | 1.46 | 0.52 | 738 |
| 29 | 26 | 3.17 | 1.27 | 0.40 | 682 | 3.08 | 1.23 | 0.40 | 717 | 3.04 | 1.21 | 0.40 | 738 | 2.94 | 1.18 | 0.40 | 760 |
| 30 | 18 | 2.70 | 2.49 | 0.92 | 568 | 2.59 | 2.38 | 0.92 | 596 | 2.48 | 2.29 | 0.92 | 625 | 2.39 | 2.20 | 0.92 | 653 |
| 30 | 20 | 2.82 | 2.25 | 0.80 | 596 | 2.70 | 2.16 | 0.80 | 632 | 2.62 | 2.10 | 0.80 | 646 | 2.53 | 2.02 | 0.80 | 675 |
| 30 | 22 | 2.93 | 1.99 | 0.68 | 618 | 2.83 | 1.92 | 0.68 | 657 | 2.76 | 1.88 | 0.68 | 675 | 2.65 | 1.80 | 0.68 | 703 |
| 30 | 24 | 3.08 | 1.73 | 0.56 | 646 | 2.97 | 1.66 | 0.56 | 682 | 2.90 | 1.62 | 0.56 | 703 | 2.81 | 1.57 | 0.56 | 738 |
| 30 | 26 | 3.17 | 1.40 | 0.44 | 682 | 3.08 | 1.36 | 0.44 | 717 | 3.04 | 1.34 | 0.44 | 738 | 2.94 | 1.30 | 0.44 | 760 |
| 31 | 18 | 2.70 | 2.59 | 0.96 | 568 | 2.59 | 2.48 | 0.96 | 596 | 2.48 | 2.38 | 0.96 | 625 | 2.39 | 2.30 | 0.96 | 653 |
| 31 | 20 | 2.82 | 2.37 | 0.84 | 596 | 2.70 | 2.27 | 0.84 | 632 | 2.62 | 2.20 | 0.84 | 646 | 2.53 | 2.13 | 0.84 | 675 |
| 31 | 22 | 2.93 | 2.11 | 0.72 | 618 | 2.83 | 2.04 | 0.72 | 657 | 2.76 | 1.99 | 0.72 | 675 | 2.65 | 1.90 | 0.72 | 703 |
| 31 | 24 | 3.08 | 1.85 | 0.60 | 646 | 2.97 | 1.78 | 0.60 | 682 | 2.90 | 1.74 | 0.60 | 703 | 2.81 | 1.68 | 0.60 | 738 |
| 31 | 26 | 3.17 | 1.52 | 0.48 | 682 | 3.08 | 1.48 | 0.48 | 717 | 3.04 | 1.46 | 0.48 | 738 | 2.94 | 1.41 | 0.48 | 760 |
| 32 | 18 | 2.70 | 2.70 | 1.00 | 568 | 2.59 | 2.59 | 1.00 | 596 | 2.48 | 2.48 | 1.00 | 625 | 2.39 | 2.39 | 1.00 | 653 |
| 32 | 20 | 2.82 | 2.48 | 0.88 | 596 | 2.70 | 2.38 | 0.88 | 632 | 2.62 | 2.31 | 0.88 | 646 | 2.53 | 2.23 | 0.88 | 675 |
| 32 | 22 | 2.93 | 2.23 | 0.76 | 618 | 2.83 | 2.15 | 0.76 | 657 | 2.76 | 2.10 | 0.76 | 675 | 2.65 | 2.01 | 0.76 | 703 |
| 32 | 24 | 3.08 | 1.97 | 0.64 | 646 | 2.97 | 1.90 | 0.64 | 682 | 2.90 | 1.85 | 0.64 | 703 | 2.81 | 1.80 | 0.64 | 738 |
| 32 | 26 | 3.17 | 1.65 | 0.52 | 682 | 3.08 | 1.60 | 0.52 | 717 | 3.04 | 1.58 | 0.52 | 738 | 2.94 | 1.53 | 0.52 | 760 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1 : MUH-A07WV -E1

CAPACITY : 2.3(kW) SHF : 0.74 INPUT : 710(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.25 | 1.26 | 0.56 | 696 | 2.07 | 1.16 | 0.56 | 738 | 1.99 | 1.11 | 0.56 | 753 |
| 21 | 20 | 2.37 | 1.04 | 0.44 | 724 | 2.21 | 0.97 | 0.44 | 760 | 2.13 | 0.94 | 0.44 | 781 |
| 22 | 18 | 2.25 | 1.35 | 0.60 | 696 | 2.07 | 1.24 | 0.60 | 738 | 1.99 | 1.19 | 0.60 | 753 |
| 22 | 20 | 2.37 | 1.14 | 0.48 | 724 | 2.21 | 1.06 | 0.48 | 760 | 2.13 | 1.02 | 0.48 | 781 |
| 22 | 22 | 2.51 | 0.90 | 0.36 | 753 | 2.35 | 0.84 | 0.36 | 795 | 2.27 | 0.82 | 0.36 | 809 |
| 23 | 18 | 2.25 | 1.44 | 0.64 | 696 | 2.07 | 1.32 | 0.64 | 738 | 1.99 | 1.27 | 0.64 | 753 |
| 23 | 20 | 2.37 | 1.23 | 0.52 | 724 | 2.21 | 1.15 | 0.52 | 760 | 2.13 | 1.11 | 0.52 | 781 |
| 23 | 22 | 2.51 | 1.00 | 0.40 | 753 | 2.35 | 0.94 | 0.40 | 795 | 2.27 | 0.91 | 0.40 | 809 |
| 24 | 18 | 2.25 | 1.53 | 0.68 | 696 | 2.07 | 1.41 | 0.68 | 738 | 1.99 | 1.35 | 0.68 | 753 |
| 24 | 20 | 2.37 | 1.33 | 0.56 | 724 | 2.21 | 1.24 | 0.56 | 760 | 2.13 | 1.19 | 0.56 | 781 |
| 24 | 22 | 2.51 | 1.10 | 0.44 | 753 | 2.35 | 1.03 | 0.44 | 795 | 2.27 | 1.00 | 0.44 | 809 |
| 24 | 24 | 2.65 | 0.85 | 0.32 | 781 | 2.48 | 0.79 | 0.32 | 817 | 2.42 | 0.77 | 0.32 | 834 |
| 25 | 18 | 2.25 | 1.62 | 0.72 | 696 | 2.07 | 1.49 | 0.72 | 738 | 1.99 | 1.43 | 0.72 | 753 |
| 25 | 20 | 2.37 | 1.42 | 0.60 | 724 | 2.21 | 1.32 | 0.60 | 760 | 2.13 | 1.28 | 0.60 | 781 |
| 25 | 22 | 2.51 | 1.20 | 0.48 | 753 | 2.35 | 1.13 | 0.48 | 795 | 2.27 | 1.09 | 0.48 | 809 |
| 25 | 24 | 2.65 | 0.95 | 0.36 | 781 | 2.48 | 0.89 | 0.36 | 817 | 2.42 | 0.87 | 0.36 | 834 |
| 26 | 18 | 2.25 | 1.71 | 0.76 | 696 | 2.07 | 1.57 | 0.76 | 738 | 1.99 | 1.51 | 0.76 | 753 |
| 26 | 20 | 2.37 | 1.52 | 0.64 | 724 | 2.21 | 1.41 | 0.64 | 760 | 2.13 | 1.36 | 0.64 | 781 |
| 26 | 22 | 2.51 | 1.30 | 0.52 | 753 | 2.35 | 1.22 | 0.52 | 795 | 2.27 | 1.18 | 0.52 | 809 |
| 26 | 24 | 2.65 | 1.06 | 0.40 | 781 | 2.48 | 0.99 | 0.40 | 817 | 2.42 | 0.97 | 0.40 | 834 |
| 26 | 26 | 2.78 | 0.78 | 0.28 | 809 | 2.62 | 0.73 | 0.28 | 845 | 2.54 | 0.71 | 0.28 | 863 |
| 27 | 18 | 2.25 | 1.80 | 0.80 | 696 | 2.07 | 1.66 | 0.80 | 738 | 1.99 | 1.59 | 0.80 | 753 |
| 27 | 20 | 2.37 | 1.61 | 0.68 | 724 | 2.21 | 1.50 | 0.68 | 760 | 2.13 | 1.45 | 0.68 | 781 |
| 27 | 22 | 2.51 | 1.40 | 0.56 | 753 | 2.35 | 1.31 | 0.56 | 795 | 2.27 | 1.27 | 0.56 | 809 |
| 27 | 24 | 2.65 | 1.16 | 0.44 | 781 | 2.48 | 1.09 | 0.44 | 817 | 2.42 | 1.06 | 0.44 | 834 |
| 27 | 26 | 2.78 | 0.89 | 0.32 | 809 | 2.62 | 0.84 | 0.32 | 845 | 2.54 | 0.81 | 0.32 | 863 |
| 28 | 18 | 2.25 | 1.89 | 0.84 | 696 | 2.07 | 1.74 | 0.84 | 738 | 1.99 | 1.67 | 0.84 | 753 |
| 28 | 20 | 2.37 | 1.71 | 0.72 | 724 | 2.21 | 1.59 | 0.72 | 760 | 2.13 | 1.53 | 0.72 | 781 |
| 28 | 22 | 2.51 | 1.50 | 0.60 | 753 | 2.35 | 1.41 | 0.60 | 795 | 2.27 | 1.36 | 0.60 | 809 |
| 28 | 24 | 2.65 | 1.27 | 0.48 | 781 | 2.48 | 1.19 | 0.48 | 817 | 2.42 | 1.16 | 0.48 | 834 |
| 28 | 26 | 2.78 | 1.00 | 0.36 | 809 | 2.62 | 0.94 | 0.36 | 845 | 2.54 | 0.91 | 0.36 | 863 |
| 29 | 18 | 2.25 | 1.98 | 0.88 | 696 | 2.07 | 1.82 | 0.88 | 738 | 1.99 | 1.75 | 0.88 | 753 |
| 29 | 20 | 2.37 | 1.80 | 0.76 | 724 | 2.21 | 1.68 | 0.76 | 760 | 2.13 | 1.62 | 0.76 | 781 |
| 29 | 22 | 2.51 | 1.60 | 0.64 | 753 | 2.35 | 1.50 | 0.64 | 795 | 2.27 | 1.45 | 0.64 | 809 |
| 29 | 24 | 2.65 | 1.38 | 0.52 | 781 | 2.48 | 1.29 | 0.52 | 817 | 2.42 | 1.26 | 0.52 | 834 |
| 29 | 26 | 2.78 | 1.11 | 0.40 | 809 | 2.62 | 1.05 | 0.40 | 845 | 2.54 | 1.02 | 0.40 | 863 |
| 30 | 18 | 2.25 | 2.07 | 0.92 | 696 | 2.07 | 1.90 | 0.92 | 738 | 1.99 | 1.83 | 0.92 | 753 |
| 30 | 20 | 2.37 | 1.90 | 0.80 | 724 | 2.21 | 1.77 | 0.80 | 760 | 2.13 | 1.70 | 0.80 | 781 |
| 30 | 22 | 2.51 | 1.70 | 0.68 | 753 | 2.35 | 1.60 | 0.68 | 795 | 2.27 | 1.54 | 0.68 | 809 |
| 30 | 24 | 2.65 | 1.48 | 0.56 | 781 | 2.48 | 1.39 | 0.56 | 817 | 2.42 | 1.35 | 0.56 | 834 |
| 30 | 26 | 2.78 | 1.22 | 0.44 | 809 | 2.62 | 1.15 | 0.44 | 845 | 2.54 | 1.12 | 0.44 | 863 |
| 31 | 18 | 2.25 | 2.16 | 0.96 | 696 | 2.07 | 1.99 | 0.96 | 738 | 1.99 | 1.91 | 0.96 | 753 |
| 31 | 20 | 2.37 | 1.99 | 0.84 | 724 | 2.21 | 1.85 | 0.84 | 760 | 2.13 | 1.79 | 0.84 | 781 |
| 31 | 22 | 2.51 | 1.81 | 0.72 | 753 | 2.35 | 1.69 | 0.72 | 795 | 2.27 | 1.63 | 0.72 | 809 |
| 31 | 24 | 2.65 | 1.59 | 0.60 | 781 | 2.48 | 1.49 | 0.60 | 817 | 2.42 | 1.45 | 0.60 | 834 |
| 31 | 26 | 2.78 | 1.34 | 0.48 | 809 | 2.62 | 1.26 | 0.48 | 845 | 2.54 | 1.22 | 0.48 | 863 |
| 32 | 18 | 2.25 | 2.25 | 1.00 | 696 | 2.07 | 2.07 | 1.00 | 738 | 1.99 | 1.99 | 1.00 | 753 |
| 32 | 20 | 2.37 | 2.08 | 0.88 | 724 | 2.21 | 1.94 | 0.88 | 760 | 2.13 | 1.87 | 0.88 | 781 |
| 32 | 22 | 2.51 | 1.91 | 0.76 | 753 | 2.35 | 1.78 | 0.76 | 795 | 2.27 | 1.72 | 0.76 | 809 |
| 32 | 24 | 2.65 | 1.69 | 0.64 | 781 | 2.48 | 1.59 | 0.64 | 817 | 2.42 | 1.55 | 0.64 | 834 |
| 32 | 26 | 2.78 | 1.45 | 0.52 | 809 | 2.62 | 1.36 | 0.52 | 845 | 2.54 | 1.32 | 0.52 | 863 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 : MUH-A09WV -E1

CAPACITY : 2.55(kW) SHF : 0.70 INPUT : 780(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.00 | 1.56 | 0.52 | 624 | 2.87 | 1.49 | 0.52 | 655 | 2.75 | 1.43 | 0.52 | 686 | 2.65 | 1.38 | 0.52 | 718 |
| 21 | 20 | 3.12 | 1.25 | 0.40 | 655 | 3.00 | 1.20 | 0.40 | 694 | 2.91 | 1.16 | 0.40 | 710 | 2.81 | 1.12 | 0.40 | 741 |
| 22 | 18 | 3.00 | 1.68 | 0.56 | 624 | 2.87 | 1.61 | 0.56 | 655 | 2.75 | 1.54 | 0.56 | 686 | 2.65 | 1.49 | 0.56 | 718 |
| 22 | 20 | 3.12 | 1.37 | 0.44 | 655 | 3.00 | 1.32 | 0.44 | 694 | 2.91 | 1.28 | 0.44 | 710 | 2.81 | 1.23 | 0.44 | 741 |
| 22 | 22 | 3.25 | 1.04 | 0.32 | 679 | 3.14 | 1.00 | 0.32 | 722 | 3.06 | 0.98 | 0.32 | 741 | 2.93 | 0.94 | 0.32 | 772 |
| 23 | 18 | 3.00 | 1.80 | 0.60 | 624 | 2.87 | 1.72 | 0.60 | 655 | 2.75 | 1.65 | 0.60 | 686 | 2.65 | 1.59 | 0.60 | 718 |
| 23 | 20 | 3.12 | 1.50 | 0.48 | 655 | 3.00 | 1.44 | 0.48 | 694 | 2.91 | 1.40 | 0.48 | 710 | 2.81 | 1.35 | 0.48 | 741 |
| 23 | 22 | 3.25 | 1.17 | 0.36 | 679 | 3.14 | 1.13 | 0.36 | 722 | 3.06 | 1.10 | 0.36 | 741 | 2.93 | 1.06 | 0.36 | 772 |
| 24 | 18 | 3.00 | 1.92 | 0.64 | 624 | 2.87 | 1.84 | 0.64 | 655 | 2.75 | 1.76 | 0.64 | 686 | 2.65 | 1.70 | 0.64 | 718 |
| 24 | 20 | 3.12 | 1.62 | 0.52 | 655 | 3.00 | 1.56 | 0.52 | 694 | 2.91 | 1.51 | 0.52 | 710 | 2.81 | 1.46 | 0.52 | 741 |
| 24 | 22 | 3.25 | 1.30 | 0.40 | 679 | 3.14 | 1.25 | 0.40 | 722 | 3.06 | 1.22 | 0.40 | 741 | 2.93 | 1.17 | 0.40 | 772 |
| 24 | 24 | 3.42 | 0.96 | 0.28 | 710 | 3.29 | 0.92 | 0.28 | 749 | 3.21 | 0.90 | 0.28 | 772 | 3.11 | 0.87 | 0.28 | 811 |
| 25 | 18 | 3.00 | 2.04 | 0.68 | 624 | 2.87 | 1.95 | 0.68 | 655 | 2.75 | 1.87 | 0.68 | 686 | 2.65 | 1.80 | 0.68 | 718 |
| 25 | 20 | 3.12 | 1.75 | 0.56 | 655 | 3.00 | 1.68 | 0.56 | 694 | 2.91 | 1.63 | 0.56 | 710 | 2.81 | 1.57 | 0.56 | 741 |
| 25 | 22 | 3.25 | 1.43 | 0.44 | 679 | 3.14 | 1.38 | 0.44 | 722 | 3.06 | 1.35 | 0.44 | 741 | 2.93 | 1.29 | 0.44 | 772 |
| 25 | 24 | 3.42 | 1.09 | 0.32 | 710 | 3.29 | 1.05 | 0.32 | 749 | 3.21 | 1.03 | 0.32 | 772 | 3.11 | 1.00 | 0.32 | 811 |
| 26 | 18 | 3.00 | 2.16 | 0.72 | 624 | 2.87 | 2.07 | 0.72 | 655 | 2.75 | 1.98 | 0.72 | 686 | 2.65 | 1.91 | 0.72 | 718 |
| 26 | 20 | 3.12 | 1.87 | 0.60 | 655 | 3.00 | 1.80 | 0.60 | 694 | 2.91 | 1.74 | 0.60 | 710 | 2.81 | 1.68 | 0.60 | 741 |
| 26 | 22 | 3.25 | 1.56 | 0.48 | 679 | 3.14 | 1.51 | 0.48 | 722 | 3.06 | 1.47 | 0.48 | 741 | 2.93 | 1.41 | 0.48 | 772 |
| 26 | 24 | 3.42 | 1.23 | 0.36 | 710 | 3.29 | 1.18 | 0.36 | 749 | 3.21 | 1.16 | 0.36 | 772 | 3.11 | 1.12 | 0.36 | 811 |
| 26 | 26 | 3.52 | 0.84 | 0.24 | 749 | 3.42 | 0.82 | 0.24 | 788 | 3.37 | 0.81 | 0.24 | 811 | 3.26 | 0.78 | 0.24 | 835 |
| 27 | 18 | 3.00 | 2.28 | 0.76 | 624 | 2.87 | 2.18 | 0.76 | 655 | 2.75 | 2.09 | 0.76 | 686 | 2.65 | 2.02 | 0.76 | 718 |
| 27 | 20 | 3.12 | 2.00 | 0.64 | 655 | 3.00 | 1.92 | 0.64 | 694 | 2.91 | 1.86 | 0.64 | 710 | 2.81 | 1.80 | 0.64 | 741 |
| 27 | 22 | 3.25 | 1.69 | 0.52 | 679 | 3.14 | 1.63 | 0.52 | 722 | 3.06 | 1.59 | 0.52 | 741 | 2.93 | 1.52 | 0.52 | 772 |
| 27 | 24 | 3.42 | 1.37 | 0.40 | 710 | 3.29 | 1.32 | 0.40 | 749 | 3.21 | 1.29 | 0.40 | 772 | 3.11 | 1.24 | 0.40 | 811 |
| 27 | 26 | 3.52 | 0.99 | 0.28 | 749 | 3.42 | 0.96 | 0.28 | 788 | 3.37 | 0.94 | 0.28 | 811 | 3.26 | 0.91 | 0.28 | 835 |
| 28 | 18 | 3.00 | 2.40 | 0.80 | 624 | 2.87 | 2.30 | 0.80 | 655 | 2.75 | 2.20 | 0.80 | 686 | 2.65 | 2.12 | 0.80 | 718 |
| 28 | 20 | 3.12 | 2.12 | 0.68 | 655 | 3.00 | 2.04 | 0.68 | 694 | 2.91 | 1.98 | 0.68 | 710 | 2.81 | 1.91 | 0.68 | 741 |
| 28 | 22 | 3.25 | 1.82 | 0.56 | 679 | 3.14 | 1.76 | 0.56 | 722 | 3.06 | 1.71 | 0.56 | 741 | 2.93 | 1.64 | 0.56 | 772 |
| 28 | 24 | 3.42 | 1.50 | 0.44 | 710 | 3.29 | 1.45 | 0.44 | 749 | 3.21 | 1.41 | 0.44 | 772 | 3.11 | 1.37 | 0.44 | 811 |
| 28 | 26 | 3.52 | 1.13 | 0.32 | 749 | 3.42 | 1.09 | 0.32 | 788 | 3.37 | 1.08 | 0.32 | 811 | 3.26 | 1.04 | 0.32 | 835 |
| 29 | 18 | 3.00 | 2.52 | 0.84 | 624 | 2.87 | 2.41 | 0.84 | 655 | 2.75 | 2.31 | 0.84 | 686 | 2.65 | 2.23 | 0.84 | 718 |
| 29 | 20 | 3.12 | 2.25 | 0.72 | 655 | 3.00 | 2.16 | 0.72 | 694 | 2.91 | 2.09 | 0.72 | 710 | 2.81 | 2.02 | 0.72 | 741 |
| 29 | 22 | 3.25 | 1.95 | 0.60 | 679 | 3.14 | 1.88 | 0.60 | 722 | 3.06 | 1.84 | 0.60 | 741 | 2.93 | 1.76 | 0.60 | 772 |
| 29 | 24 | 3.42 | 1.64 | 0.48 | 710 | 3.29 | 1.58 | 0.48 | 749 | 3.21 | 1.54 | 0.48 | 772 | 3.11 | 1.49 | 0.48 | 811 |
| 29 | 26 | 3.52 | 1.27 | 0.36 | 749 | 3.42 | 1.23 | 0.36 | 788 | 3.37 | 1.21 | 0.36 | 811 | 3.26 | 1.18 | 0.36 | 835 |
| 30 | 18 | 3.00 | 2.64 | 0.88 | 624 | 2.87 | 2.52 | 0.88 | 655 | 2.75 | 2.42 | 0.88 | 686 | 2.65 | 2.33 | 0.88 | 718 |
| 30 | 20 | 3.12 | 2.37 | 0.76 | 655 | 3.00 | 2.28 | 0.76 | 694 | 2.91 | 2.21 | 0.76 | 710 | 2.81 | 2.13 | 0.76 | 741 |
| 30 | 22 | 3.25 | 2.08 | 0.64 | 679 | 3.14 | 2.01 | 0.64 | 722 | 3.06 | 1.96 | 0.64 | 741 | 2.93 | 1.88 | 0.64 | 772 |
| 30 | 24 | 3.42 | 1.78 | 0.52 | 710 | 3.29 | 1.71 | 0.52 | 749 | 3.21 | 1.67 | 0.52 | 772 | 3.11 | 1.62 | 0.52 | 811 |
| 30 | 26 | 3.52 | 1.41 | 0.40 | 749 | 3.42 | 1.37 | 0.40 | 788 | 3.37 | 1.35 | 0.40 | 811 | 3.26 | 1.31 | 0.40 | 835 |
| 31 | 18 | 3.00 | 2.76 | 0.92 | 624 | 2.87 | 2.64 | 0.92 | 655 | 2.75 | 2.53 | 0.92 | 686 | 2.65 | 2.44 | 0.92 | 718 |
| 31 | 20 | 3.12 | 2.50 | 0.80 | 655 | 3.00 | 2.40 | 0.80 | 694 | 2.91 | 2.33 | 0.80 | 710 | 2.81 | 2.24 | 0.80 | 741 |
| 31 | 22 | 3.25 | 2.21 | 0.68 | 679 | 3.14 | 2.13 | 0.68 | 722 | 3.06 | 2.08 | 0.68 | 741 | 2.93 | 1.99 | 0.68 | 772 |
| 31 | 24 | 3.42 | 1.91 | 0.56 | 710 | 3.29 | 1.84 | 0.56 | 749 | 3.21 | 1.80 | 0.56 | 772 | 3.11 | 1.74 | 0.56 | 811 |
| 31 | 26 | 3.52 | 1.55 | 0.44 | 749 | 3.42 | 1.50 | 0.44 | 788 | 3.37 | 1.48 | 0.44 | 811 | 3.26 | 1.44 | 0.44 | 835 |
| 32 | 18 | 3.00 | 2.88 | 0.96 | 624 | 2.87 | 2.75 | 0.96 | 655 | 2.75 | 2.64 | 0.96 | 686 | 2.65 | 2.55 | 0.96 | 718 |
| 32 | 20 | 3.12 | 2.62 | 0.84 | 655 | 3.00 | 2.52 | 0.84 | 694 | 2.91 | 2.44 | 0.84 | 710 | 2.81 | 2.36 | 0.84 | 741 |
| 32 | 22 | 3.25 | 2.34 | 0.72 | 679 | 3.14 | 2.26 | 0.72 | 722 | 3.06 | 2.20 | 0.72 | 741 | 2.93 | 2.11 | 0.72 | 772 |
| 32 | 24 | 3.42 | 2.05 | 0.60 | 710 | 3.29 | 1.97 | 0.60 | 749 | 3.21 | 1.93 | 0.60 | 772 | 3.11 | 1.87 | 0.60 | 811 |
| 32 | 26 | 3.52 | 1.69 | 0.48 | 749 | 3.42 | 1.64 | 0.48 | 788 | 3.37 | 1.62 | 0.48 | 811 | 3.26 | 1.57 | 0.48 | 835 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 : MUH-A09WV -E1

CAPACITY : 2.55(kW) SHF : 0.70 INPUT : 780(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.50 | 1.30 | 0.52 | 764 | 2.30 | 1.19 | 0.52 | 811 | 2.21 | 1.15 | 0.52 | 827 |
| 21 | 20 | 2.63 | 1.05 | 0.40 | 796 | 2.45 | 0.98 | 0.40 | 835 | 2.36 | 0.94 | 0.40 | 858 |
| 22 | 18 | 2.50 | 1.40 | 0.56 | 764 | 2.30 | 1.29 | 0.56 | 811 | 2.21 | 1.24 | 0.56 | 827 |
| 22 | 20 | 2.63 | 1.16 | 0.44 | 796 | 2.45 | 1.08 | 0.44 | 835 | 2.36 | 1.04 | 0.44 | 858 |
| 22 | 22 | 2.78 | 0.89 | 0.32 | 827 | 2.60 | 0.83 | 0.32 | 874 | 2.51 | 0.80 | 0.32 | 889 |
| 23 | 18 | 2.50 | 1.50 | 0.60 | 764 | 2.30 | 1.38 | 0.60 | 811 | 2.21 | 1.32 | 0.60 | 827 |
| 23 | 20 | 2.63 | 1.26 | 0.48 | 796 | 2.45 | 1.18 | 0.48 | 835 | 2.36 | 1.13 | 0.48 | 858 |
| 23 | 22 | 2.78 | 1.00 | 0.36 | 827 | 2.60 | 0.94 | 0.36 | 874 | 2.51 | 0.90 | 0.36 | 889 |
| 24 | 18 | 2.50 | 1.60 | 0.64 | 764 | 2.30 | 1.47 | 0.64 | 811 | 2.21 | 1.41 | 0.64 | 827 |
| 24 | 20 | 2.63 | 1.37 | 0.52 | 796 | 2.45 | 1.27 | 0.52 | 835 | 2.36 | 1.23 | 0.52 | 858 |
| 24 | 22 | 2.78 | 1.11 | 0.40 | 827 | 2.60 | 1.04 | 0.40 | 874 | 2.51 | 1.00 | 0.40 | 889 |
| 24 | 24 | 2.93 | 0.82 | 0.28 | 858 | 2.75 | 0.77 | 0.28 | 897 | 2.68 | 0.75 | 0.28 | 917 |
| 25 | 18 | 2.50 | 1.70 | 0.68 | 764 | 2.30 | 1.56 | 0.68 | 811 | 2.21 | 1.50 | 0.68 | 827 |
| 25 | 20 | 2.63 | 1.47 | 0.56 | 796 | 2.45 | 1.37 | 0.56 | 835 | 2.36 | 1.32 | 0.56 | 858 |
| 25 | 22 | 2.78 | 1.22 | 0.44 | 827 | 2.60 | 1.14 | 0.44 | 874 | 2.51 | 1.11 | 0.44 | 889 |
| 25 | 24 | 2.93 | 0.94 | 0.32 | 858 | 2.75 | 0.88 | 0.32 | 897 | 2.68 | 0.86 | 0.32 | 917 |
| 26 | 18 | 2.50 | 1.80 | 0.72 | 764 | 2.30 | 1.65 | 0.72 | 811 | 2.21 | 1.59 | 0.72 | 827 |
| 26 | 20 | 2.63 | 1.58 | 0.60 | 796 | 2.45 | 1.47 | 0.60 | 835 | 2.36 | 1.42 | 0.60 | 858 |
| 26 | 22 | 2.78 | 1.33 | 0.48 | 827 | 2.60 | 1.25 | 0.48 | 874 | 2.51 | 1.21 | 0.48 | 889 |
| 26 | 24 | 2.93 | 1.06 | 0.36 | 858 | 2.75 | 0.99 | 0.36 | 897 | 2.68 | 0.96 | 0.36 | 917 |
| 26 | 26 | 3.09 | 0.74 | 0.24 | 889 | 2.91 | 0.70 | 0.24 | 928 | 2.82 | 0.68 | 0.24 | 948 |
| 27 | 18 | 2.50 | 1.90 | 0.76 | 764 | 2.30 | 1.74 | 0.76 | 811 | 2.21 | 1.68 | 0.76 | 827 |
| 27 | 20 | 2.63 | 1.68 | 0.64 | 796 | 2.45 | 1.57 | 0.64 | 835 | 2.36 | 1.51 | 0.64 | 858 |
| 27 | 22 | 2.78 | 1.45 | 0.52 | 827 | 2.60 | 1.35 | 0.52 | 874 | 2.51 | 1.31 | 0.52 | 889 |
| 27 | 24 | 2.93 | 1.17 | 0.40 | 858 | 2.75 | 1.10 | 0.40 | 897 | 2.68 | 1.07 | 0.40 | 917 |
| 27 | 26 | 3.09 | 0.86 | 0.28 | 889 | 2.91 | 0.81 | 0.28 | 928 | 2.82 | 0.79 | 0.28 | 948 |
| 28 | 18 | 2.50 | 2.00 | 0.80 | 764 | 2.30 | 1.84 | 0.80 | 811 | 2.21 | 1.76 | 0.80 | 827 |
| 28 | 20 | 2.63 | 1.79 | 0.68 | 796 | 2.45 | 1.66 | 0.68 | 835 | 2.36 | 1.60 | 0.68 | 858 |
| 28 | 22 | 2.78 | 1.56 | 0.56 | 827 | 2.60 | 1.46 | 0.56 | 874 | 2.51 | 1.41 | 0.56 | 889 |
| 28 | 24 | 2.93 | 1.29 | 0.44 | 858 | 2.75 | 1.21 | 0.44 | 897 | 2.68 | 1.18 | 0.44 | 917 |
| 28 | 26 | 3.09 | 0.99 | 0.32 | 889 | 2.91 | 0.93 | 0.32 | 928 | 2.82 | 0.90 | 0.32 | 948 |
| 29 | 18 | 2.50 | 2.10 | 0.84 | 764 | 2.30 | 1.93 | 0.84 | 811 | 2.21 | 1.85 | 0.84 | 827 |
| 29 | 20 | 2.63 | 1.89 | 0.72 | 796 | 2.45 | 1.76 | 0.72 | 835 | 2.36 | 1.70 | 0.72 | 858 |
| 29 | 22 | 2.78 | 1.67 | 0.60 | 827 | 2.60 | 1.56 | 0.60 | 874 | 2.51 | 1.51 | 0.60 | 889 |
| 29 | 24 | 2.93 | 1.41 | 0.48 | 858 | 2.75 | 1.32 | 0.48 | 897 | 2.68 | 1.29 | 0.48 | 917 |
| 29 | 26 | 3.09 | 1.11 | 0.36 | 889 | 2.91 | 1.05 | 0.36 | 928 | 2.82 | 1.01 | 0.36 | 948 |
| 30 | 18 | 2.50 | 2.20 | 0.88 | 764 | 2.30 | 2.02 | 0.88 | 811 | 2.21 | 1.94 | 0.88 | 827 |
| 30 | 20 | 2.63 | 2.00 | 0.76 | 796 | 2.45 | 1.86 | 0.76 | 835 | 2.36 | 1.79 | 0.76 | 858 |
| 30 | 22 | 2.78 | 1.78 | 0.64 | 827 | 2.60 | 1.66 | 0.64 | 874 | 2.51 | 1.61 | 0.64 | 889 |
| 30 | 24 | 2.93 | 1.52 | 0.52 | 858 | 2.75 | 1.43 | 0.52 | 897 | 2.68 | 1.39 | 0.52 | 917 |
| 30 | 26 | 3.09 | 1.23 | 0.40 | 889 | 2.91 | 1.16 | 0.40 | 928 | 2.82 | 1.13 | 0.40 | 948 |
| 31 | 18 | 2.50 | 2.30 | 0.92 | 764 | 2.30 | 2.11 | 0.92 | 811 | 2.21 | 2.03 | 0.92 | 827 |
| 31 | 20 | 2.63 | 2.10 | 0.80 | 796 | 2.45 | 1.96 | 0.80 | 835 | 2.36 | 1.89 | 0.80 | 858 |
| 31 | 22 | 2.78 | 1.89 | 0.68 | 827 | 2.60 | 1.77 | 0.68 | 874 | 2.51 | 1.71 | 0.68 | 889 |
| 31 | 24 | 2.93 | 1.64 | 0.56 | 858 | 2.75 | 1.54 | 0.56 | 897 | 2.68 | 1.50 | 0.56 | 917 |
| 31 | 26 | 3.09 | 1.36 | 0.44 | 889 | 2.91 | 1.28 | 0.44 | 928 | 2.82 | 1.24 | 0.44 | 948 |
| 32 | 18 | 2.50 | 2.40 | 0.96 | 764 | 2.30 | 2.20 | 0.96 | 811 | 2.21 | 2.12 | 0.96 | 827 |
| 32 | 20 | 2.63 | 2.21 | 0.84 | 796 | 2.45 | 2.06 | 0.84 | 835 | 2.36 | 1.98 | 0.84 | 858 |
| 32 | 22 | 2.78 | 2.00 | 0.72 | 827 | 2.60 | 1.87 | 0.72 | 874 | 2.51 | 1.81 | 0.72 | 889 |
| 32 | 24 | 2.93 | 1.76 | 0.60 | 858 | 2.75 | 1.65 | 0.60 | 897 | 2.68 | 1.61 | 0.60 | 917 |
| 32 | 26 | 3.09 | 1.48 | 0.48 | 889 | 2.91 | 1.40 | 0.48 | 928 | 2.82 | 1.35 | 0.48 | 948 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 : MUH-A12WV -E1

CAPACITY : 3.40(kW) SHF : 0.67 INPUT : 1060(W)

| | | OUTDOOR DB(°C) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(°C) | INDOOR WB(°C) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 4.00 | 1.96 | 0.49 | 848 | 3.83 | 1.87 | 0.49 | 890 | 3.67 | 1.80 | 0.49 | 933 | 3.54 | 1.73 | 0.49 | 975 |
| 21 | 20 | 4.17 | 1.54 | 0.37 | 890 | 4.00 | 1.48 | 0.37 | 943 | 3.88 | 1.43 | 0.37 | 965 | 3.74 | 1.38 | 0.37 | 1007 |
| 22 | 18 | 4.00 | 2.12 | 0.53 | 848 | 3.83 | 2.03 | 0.53 | 890 | 3.67 | 1.95 | 0.53 | 933 | 3.54 | 1.87 | 0.53 | 975 |
| 22 | 20 | 4.17 | 1.71 | 0.41 | 890 | 4.00 | 1.64 | 0.41 | 943 | 3.88 | 1.59 | 0.41 | 965 | 3.74 | 1.53 | 0.41 | 1007 |
| 22 | 22 | 4.34 | 1.26 | 0.29 | 922 | 4.18 | 1.21 | 0.29 | 981 | 4.08 | 1.18 | 0.29 | 1007 | 3.91 | 1.13 | 0.29 | 1049 |
| 23 | 18 | 4.00 | 2.28 | 0.57 | 848 | 3.83 | 2.18 | 0.57 | 890 | 3.67 | 2.09 | 0.57 | 933 | 3.54 | 2.02 | 0.57 | 975 |
| 23 | 20 | 4.17 | 1.87 | 0.45 | 890 | 4.00 | 1.80 | 0.45 | 943 | 3.88 | 1.74 | 0.45 | 965 | 3.74 | 1.68 | 0.45 | 1007 |
| 23 | 22 | 4.34 | 1.43 | 0.33 | 922 | 4.18 | 1.38 | 0.33 | 981 | 4.08 | 1.35 | 0.33 | 1007 | 3.91 | 1.29 | 0.33 | 1049 |
| 24 | 18 | 4.00 | 2.44 | 0.61 | 848 | 3.83 | 2.33 | 0.61 | 890 | 3.67 | 2.24 | 0.61 | 933 | 3.54 | 2.16 | 0.61 | 975 |
| 24 | 20 | 4.17 | 2.04 | 0.49 | 890 | 4.00 | 1.96 | 0.49 | 943 | 3.88 | 1.90 | 0.49 | 965 | 3.74 | 1.83 | 0.49 | 1007 |
| 24 | 22 | 4.34 | 1.60 | 0.37 | 922 | 4.18 | 1.55 | 0.37 | 981 | 4.08 | 1.51 | 0.37 | 1007 | 3.91 | 1.45 | 0.37 | 1049 |
| 24 | 24 | 4.56 | 1.14 | 0.25 | 965 | 4.39 | 1.10 | 0.25 | 1018 | 4.28 | 1.07 | 0.25 | 1049 | 4.15 | 1.04 | 0.25 | 1102 |
| 25 | 18 | 4.00 | 2.60 | 0.65 | 848 | 3.83 | 2.49 | 0.65 | 890 | 3.67 | 2.39 | 0.65 | 933 | 3.54 | 2.30 | 0.65 | 975 |
| 25 | 20 | 4.17 | 2.21 | 0.53 | 890 | 4.00 | 2.12 | 0.53 | 943 | 3.88 | 2.05 | 0.53 | 965 | 3.74 | 1.98 | 0.53 | 1007 |
| 25 | 22 | 4.34 | 1.78 | 0.41 | 922 | 4.18 | 1.71 | 0.41 | 981 | 4.08 | 1.67 | 0.41 | 1007 | 3.91 | 1.60 | 0.41 | 1049 |
| 25 | 24 | 4.56 | 1.32 | 0.29 | 965 | 4.39 | 1.27 | 0.29 | 1018 | 4.28 | 1.24 | 0.29 | 1049 | 4.15 | 1.20 | 0.29 | 1102 |
| 26 | 18 | 4.00 | 2.76 | 0.69 | 848 | 3.83 | 2.64 | 0.69 | 890 | 3.67 | 2.53 | 0.69 | 933 | 3.54 | 2.44 | 0.69 | 975 |
| 26 | 20 | 4.17 | 2.37 | 0.57 | 890 | 4.00 | 2.28 | 0.57 | 943 | 3.88 | 2.21 | 0.57 | 965 | 3.74 | 2.13 | 0.57 | 1007 |
| 26 | 22 | 4.34 | 1.95 | 0.45 | 922 | 4.18 | 1.88 | 0.45 | 981 | 4.08 | 1.84 | 0.45 | 1007 | 3.91 | 1.76 | 0.45 | 1049 |
| 26 | 24 | 4.56 | 1.50 | 0.33 | 965 | 4.39 | 1.45 | 0.33 | 1018 | 4.28 | 1.41 | 0.33 | 1049 | 4.15 | 1.37 | 0.33 | 1102 |
| 26 | 26 | 4.69 | 0.99 | 0.21 | 1018 | 4.56 | 0.96 | 0.21 | 1071 | 4.49 | 0.94 | 0.21 | 1102 | 4.35 | 0.91 | 0.21 | 1134 |
| 27 | 18 | 4.00 | 2.92 | 0.73 | 848 | 3.83 | 2.79 | 0.73 | 890 | 3.67 | 2.68 | 0.73 | 933 | 3.54 | 2.58 | 0.73 | 975 |
| 27 | 20 | 4.17 | 2.54 | 0.61 | 890 | 4.00 | 2.44 | 0.61 | 943 | 3.88 | 2.36 | 0.61 | 965 | 3.74 | 2.28 | 0.61 | 1007 |
| 27 | 22 | 4.34 | 2.12 | 0.49 | 922 | 4.18 | 2.05 | 0.49 | 981 | 4.08 | 2.00 | 0.49 | 1007 | 3.91 | 1.92 | 0.49 | 1049 |
| 27 | 24 | 4.56 | 1.69 | 0.37 | 965 | 4.39 | 1.62 | 0.37 | 1018 | 4.28 | 1.59 | 0.37 | 1049 | 4.15 | 1.53 | 0.37 | 1102 |
| 27 | 26 | 4.69 | 1.17 | 0.25 | 1018 | 4.56 | 1.14 | 0.25 | 1071 | 4.49 | 1.12 | 0.25 | 1102 | 4.35 | 1.09 | 0.25 | 1134 |
| 28 | 18 | 4.00 | 3.08 | 0.77 | 848 | 3.83 | 2.95 | 0.77 | 890 | 3.67 | 2.83 | 0.77 | 933 | 3.54 | 2.72 | 0.77 | 975 |
| 28 | 20 | 4.17 | 2.71 | 0.65 | 890 | 4.00 | 2.60 | 0.65 | 943 | 3.88 | 2.52 | 0.65 | 965 | 3.74 | 2.43 | 0.65 | 1007 |
| 28 | 22 | 4.34 | 2.30 | 0.53 | 922 | 4.18 | 2.22 | 0.53 | 981 | 4.08 | 2.16 | 0.53 | 1007 | 3.91 | 2.07 | 0.53 | 1049 |
| 28 | 24 | 4.56 | 1.87 | 0.41 | 965 | 4.39 | 1.80 | 0.41 | 1018 | 4.28 | 1.76 | 0.41 | 1049 | 4.15 | 1.70 | 0.41 | 1102 |
| 28 | 26 | 4.69 | 1.36 | 0.29 | 1018 | 4.56 | 1.32 | 0.29 | 1071 | 4.49 | 1.30 | 0.29 | 1102 | 4.35 | 1.26 | 0.29 | 1134 |
| 29 | 18 | 4.00 | 3.24 | 0.81 | 848 | 3.83 | 3.10 | 0.81 | 890 | 3.67 | 2.97 | 0.81 | 933 | 3.54 | 2.86 | 0.81 | 975 |
| 29 | 20 | 4.17 | 2.87 | 0.69 | 890 | 4.00 | 2.76 | 0.69 | 943 | 3.88 | 2.67 | 0.69 | 965 | 3.74 | 2.58 | 0.69 | 1007 |
| 29 | 22 | 4.34 | 2.47 | 0.57 | 922 | 4.18 | 2.38 | 0.57 | 981 | 4.08 | 2.33 | 0.57 | 1007 | 3.91 | 2.23 | 0.57 | 1049 |
| 29 | 24 | 4.56 | 2.05 | 0.45 | 965 | 4.39 | 1.97 | 0.45 | 1018 | 4.28 | 1.93 | 0.45 | 1049 | 4.15 | 1.87 | 0.45 | 1102 |
| 29 | 26 | 4.69 | 1.55 | 0.33 | 1018 | 4.56 | 1.50 | 0.33 | 1071 | 4.49 | 1.48 | 0.33 | 1102 | 4.35 | 1.44 | 0.33 | 1134 |
| 30 | 18 | 4.00 | 3.40 | 0.85 | 848 | 3.83 | 3.25 | 0.85 | 890 | 3.67 | 3.12 | 0.85 | 933 | 3.54 | 3.01 | 0.85 | 975 |
| 30 | 20 | 4.17 | 3.04 | 0.73 | 890 | 4.00 | 2.92 | 0.73 | 943 | 3.88 | 2.83 | 0.73 | 965 | 3.74 | 2.73 | 0.73 | 1007 |
| 30 | 22 | 4.34 | 2.64 | 0.61 | 922 | 4.18 | 2.55 | 0.61 | 981 | 4.08 | 2.49 | 0.61 | 1007 | 3.91 | 2.39 | 0.61 | 1049 |
| 30 | 24 | 4.56 | 2.23 | 0.49 | 965 | 4.39 | 2.15 | 0.49 | 1018 | 4.28 | 2.10 | 0.49 | 1049 | 4.15 | 2.03 | 0.49 | 1102 |
| 30 | 26 | 4.69 | 1.74 | 0.37 | 1018 | 4.56 | 1.69 | 0.37 | 1071 | 4.49 | 1.66 | 0.37 | 1102 | 4.35 | 1.61 | 0.37 | 1134 |
| 31 | 18 | 4.00 | 3.56 | 0.89 | 848 | 3.83 | 3.40 | 0.89 | 890 | 3.67 | 3.27 | 0.89 | 933 | 3.54 | 3.15 | 0.89 | 975 |
| 31 | 20 | 4.17 | 3.21 | 0.77 | 890 | 4.00 | 3.08 | 0.77 | 943 | 3.88 | 2.98 | 0.77 | 965 | 3.74 | 2.88 | 0.77 | 1007 |
| 31 | 22 | 4.34 | 2.82 | 0.65 | 922 | 4.18 | 2.72 | 0.65 | 981 | 4.08 | 2.65 | 0.65 | 1007 | 3.91 | 2.54 | 0.65 | 1049 |
| 31 | 24 | 4.56 | 2.41 | 0.53 | 965 | 4.39 | 2.32 | 0.53 | 1018 | 4.28 | 2.27 | 0.53 | 1049 | 4.15 | 2.20 | 0.53 | 1102 |
| 31 | 26 | 4.69 | 1.92 | 0.41 | 1018 | 4.56 | 1.87 | 0.41 | 1071 | 4.49 | 1.84 | 0.41 | 1102 | 4.35 | 1.78 | 0.41 | 1134 |
| 32 | 18 | 4.00 | 3.72 | 0.93 | 848 | 3.83 | 3.56 | 0.93 | 890 | 3.67 | 3.41 | 0.93 | 933 | 3.54 | 3.29 | 0.93 | 975 |
| 32 | 20 | 4.17 | 3.37 | 0.81 | 890 | 4.00 | 3.24 | 0.81 | 943 | 3.88 | 3.14 | 0.81 | 965 | 3.74 | 3.03 | 0.81 | 1007 |
| 32 | 22 | 4.34 | 2.99 | 0.69 | 922 | 4.18 | 2.89 | 0.69 | 981 | 4.08 | 2.82 | 0.69 | 1007 | 3.91 | 2.70 | 0.69 | 1049 |
| 32 | 24 | 4.56 | 2.60 | 0.57 | 965 | 4.39 | 2.50 | 0.57 | 1018 | 4.28 | 2.44 | 0.57 | 1049 | 4.15 | 2.36 | 0.57 | 1102 |
| 32 | 26 | 4.69 | 2.11 | 0.45 | 1018 | 4.56 | 2.05 | 0.45 | 1071 | 4.49 | 2.02 | 0.45 | 1102 | 4.35 | 1.96 | 0.45 | 1134 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 : MUH-A12WV -E1

CAPACITY : 3.40(kW) SHF : 0.67 INPUT : 1060(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR | INDOOR | 35 | | | | 40 | | | | 43 | | | |
| DB(℃) | WB(℃) | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.33 | 1.63 | 0.49 | 1039 | 3.06 | 1.50 | 0.49 | 1102 | 2.94 | 1.44 | 0.49 | 1124 |
| 21 | 20 | 3.50 | 1.30 | 0.37 | 1081 | 3.26 | 1.21 | 0.37 | 1134 | 3.15 | 1.16 | 0.37 | 1166 |
| 22 | 18 | 3.33 | 1.77 | 0.53 | 1039 | 3.06 | 1.62 | 0.53 | 1102 | 2.94 | 1.56 | 0.53 | 1124 |
| 22 | 20 | 3.50 | 1.44 | 0.41 | 1081 | 3.26 | 1.34 | 0.41 | 1134 | 3.15 | 1.29 | 0.41 | 1166 |
| 22 | 22 | 3.71 | 1.07 | 0.29 | 1124 | 3.47 | 1.01 | 0.29 | 1187 | 3.35 | 0.97 | 0.29 | 1208 |
| 23 | 18 | 3.33 | 1.90 | 0.57 | 1039 | 3.06 | 1.74 | 0.57 | 1102 | 2.94 | 1.68 | 0.57 | 1124 |
| 23 | 20 | 3.50 | 1.58 | 0.45 | 1081 | 3.26 | 1.47 | 0.45 | 1134 | 3.15 | 1.42 | 0.45 | 1166 |
| 23 | 22 | 3.71 | 1.22 | 0.33 | 1124 | 3.47 | 1.14 | 0.33 | 1187 | 3.35 | 1.11 | 0.33 | 1208 |
| 24 | 18 | 3.33 | 2.03 | 0.61 | 1039 | 3.06 | 1.87 | 0.61 | 1102 | 2.94 | 1.79 | 0.61 | 1124 |
| 24 | 20 | 3.50 | 1.72 | 0.49 | 1081 | 3.26 | 1.60 | 0.49 | 1134 | 3.15 | 1.54 | 0.49 | 1166 |
| 24 | 22 | 3.71 | 1.37 | 0.37 | 1124 | 3.47 | 1.28 | 0.37 | 1187 | 3.35 | 1.24 | 0.37 | 1208 |
| 24 | 24 | 3.91 | 0.98 | 0.25 | 1166 | 3.67 | 0.92 | 0.25 | 1219 | 3.57 | 0.89 | 0.25 | 1246 |
| 25 | 18 | 3.33 | 2.17 | 0.65 | 1039 | 3.06 | 1.99 | 0.65 | 1102 | 2.94 | 1.91 | 0.65 | 1124 |
| 25 | 20 | 3.50 | 1.86 | 0.53 | 1081 | 3.26 | 1.73 | 0.53 | 1134 | 3.15 | 1.67 | 0.53 | 1166 |
| 25 | 22 | 3.71 | 1.52 | 0.41 | 1124 | 3.47 | 1.42 | 0.41 | 1187 | 3.35 | 1.37 | 0.41 | 1208 |
| 25 | 24 | 3.91 | 1.13 | 0.29 | 1166 | 3.67 | 1.06 | 0.29 | 1219 | 3.57 | 1.04 | 0.29 | 1246 |
| 26 | 18 | 3.33 | 2.30 | 0.69 | 1039 | 3.06 | 2.11 | 0.69 | 1102 | 2.94 | 2.03 | 0.69 | 1124 |
| 26 | 20 | 3.50 | 2.00 | 0.57 | 1081 | 3.26 | 1.86 | 0.57 | 1134 | 3.15 | 1.79 | 0.57 | 1166 |
| 26 | 22 | 3.71 | 1.67 | 0.45 | 1124 | 3.47 | 1.56 | 0.45 | 1187 | 3.35 | 1.51 | 0.45 | 1208 |
| 26 | 24 | 3.91 | 1.29 | 0.33 | 1166 | 3.67 | 1.21 | 0.33 | 1219 | 3.57 | 1.18 | 0.33 | 1246 |
| 26 | 26 | 4.11 | 0.86 | 0.21 | 1208 | 3.88 | 0.81 | 0.21 | 1261 | 3.76 | 0.79 | 0.21 | 1288 |
| 27 | 18 | 3.33 | 2.43 | 0.73 | 1039 | 3.06 | 2.23 | 0.73 | 1102 | 2.94 | 2.15 | 0.73 | 1124 |
| 27 | 20 | 3.50 | 2.14 | 0.61 | 1081 | 3.26 | 1.99 | 0.61 | 1134 | 3.15 | 1.92 | 0.61 | 1166 |
| 27 | 22 | 3.71 | 1.82 | 0.49 | 1124 | 3.47 | 1.70 | 0.49 | 1187 | 3.35 | 1.64 | 0.49 | 1208 |
| 27 | 24 | 3.91 | 1.45 | 0.37 | 1166 | 3.67 | 1.36 | 0.37 | 1219 | 3.57 | 1.32 | 0.37 | 1246 |
| 27 | 26 | 4.11 | 1.03 | 0.25 | 1208 | 3.88 | 0.97 | 0.25 | 1261 | 3.76 | 0.94 | 0.25 | 1288 |
| 28 | 18 | 3.33 | 2.57 | 0.77 | 1039 | 3.06 | 2.36 | 0.77 | 1102 | 2.94 | 2.26 | 0.77 | 1124 |
| 28 | 20 | 3.50 | 2.28 | 0.65 | 1081 | 3.26 | 2.12 | 0.65 | 1134 | 3.15 | 2.04 | 0.65 | 1166 |
| 28 | 22 | 3.71 | 1.96 | 0.53 | 1124 | 3.47 | 1.84 | 0.53 | 1187 | 3.35 | 1.77 | 0.53 | 1208 |
| 28 | 24 | 3.91 | 1.60 | 0.41 | 1166 | 3.67 | 1.51 | 0.41 | 1219 | 3.57 | 1.46 | 0.41 | 1246 |
| 28 | 26 | 4.11 | 1.19 | 0.29 | 1208 | 3.88 | 1.12 | 0.29 | 1261 | 3.76 | 1.09 | 0.29 | 1288 |
| 29 | 18 | 3.33 | 2.70 | 0.81 | 1039 | 3.06 | 2.48 | 0.81 | 1102 | 2.94 | 2.38 | 0.81 | 1124 |
| 29 | 20 | 3.50 | 2.42 | 0.69 | 1081 | 3.26 | 2.25 | 0.69 | 1134 | 3.15 | 2.17 | 0.69 | 1166 |
| 29 | 22 | 3.71 | 2.11 | 0.57 | 1124 | 3.47 | 1.98 | 0.57 | 1187 | 3.35 | 1.91 | 0.57 | 1208 |
| 29 | 24 | 3.91 | 1.76 | 0.45 | 1166 | 3.67 | 1.65 | 0.45 | 1219 | 3.57 | 1.61 | 0.45 | 1246 |
| 29 | 26 | 4.11 | 1.36 | 0.33 | 1208 | 3.88 | 1.28 | 0.33 | 1261 | 3.76 | 1.24 | 0.33 | 1288 |
| 30 | 18 | 3.33 | 2.83 | 0.85 | 1039 | 3.06 | 2.60 | 0.85 | 1102 | 2.94 | 2.50 | 0.85 | 1124 |
| 30 | 20 | 3.50 | 2.56 | 0.73 | 1081 | 3.26 | 2.38 | 0.73 | 1134 | 3.15 | 2.30 | 0.73 | 1166 |
| 30 | 22 | 3.71 | 2.26 | 0.61 | 1124 | 3.47 | 2.12 | 0.61 | 1187 | 3.35 | 2.04 | 0.61 | 1208 |
| 30 | 24 | 3.91 | 1.92 | 0.49 | 1166 | 3.67 | 1.80 | 0.49 | 1219 | 3.57 | 1.75 | 0.49 | 1246 |
| 30 | 26 | 4.11 | 1.52 | 0.37 | 1208 | 3.88 | 1.43 | 0.37 | 1261 | 3.76 | 1.39 | 0.37 | 1288 |
| 31 | 18 | 3.33 | 2.97 | 0.89 | 1039 | 3.06 | 2.72 | 0.89 | 1102 | 2.94 | 2.62 | 0.89 | 1124 |
| 31 | 20 | 3.50 | 2.70 | 0.77 | 1081 | 3.26 | 2.51 | 0.77 | 1134 | 3.15 | 2.42 | 0.77 | 1166 |
| 31 | 22 | 3.71 | 2.41 | 0.65 | 1124 | 3.47 | 2.25 | 0.65 | 1187 | 3.35 | 2.18 | 0.65 | 1208 |
| 31 | 24 | 3.91 | 2.07 | 0.53 | 1166 | 3.67 | 1.95 | 0.53 | 1219 | 3.57 | 1.89 | 0.53 | 1246 |
| 31 | 26 | 4.11 | 1.69 | 0.41 | 1208 | 3.88 | 1.59 | 0.41 | 1261 | 3.76 | 1.54 | 0.41 | 1288 |
| 32 | 18 | 3.33 | 3.10 | 0.93 | 1039 | 3.06 | 2.85 | 0.93 | 1102 | 2.94 | 2.74 | 0.93 | 1124 |
| 32 | 20 | 3.50 | 2.84 | 0.81 | 1081 | 3.26 | 2.64 | 0.81 | 1134 | 3.15 | 2.55 | 0.81 | 1166 |
| 32 | 22 | 3.71 | 2.56 | 0.69 | 1124 | 3.47 | 2.39 | 0.69 | 1187 | 3.35 | 2.31 | 0.69 | 1208 |
| 32 | 24 | 3.91 | 2.23 | 0.57 | 1166 | 3.67 | 2.09 | 0.57 | 1219 | 3.57 | 2.03 | 0.57 | 1246 |
| 32 | 26 | 4.11 | 1.85 | 0.45 | 1208 | 3.88 | 1.74 | 0.45 | 1261 | 3.76 | 1.69 | 0.45 | 1288 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**HEAT operation (230V)**

## MSC-A07WV -E1 : MUH-A07WV -E1

CAPACITY : 2.5 kW INPUT : 690 W

| INDOOR DB(℃) | OUTDOOR WB(℃) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | -10 | | -5 | | 0 | | 5 | | 10 | | 15 | | 20 | |
| | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT |
| 15 | 1.58 | 449 | 1.90 | 538 | 2.23 | 607 | 2.55 | 656 | 2.88 | 697 | 3.18 | 718 | 3.50 | 731 |
| 21 | 1.50 | 483 | 1.80 | 573 | 2.13 | 635 | 2.43 | 683 | 2.75 | 718 | 3.05 | 738 | 3.36 | 766 |
| 26 | 1.35 | 518 | 1.68 | 607 | 1.98 | 669 | 2.30 | 718 | 2.63 | 752 | 2.93 | 773 | 3.25 | 794 |

## MSC-A09WV -E1 : MUH-A09WV -E1

CAPACITY : 3.05 kW INPUT : 840 W

| INDOOR DB(℃) | OUTDOOR WB(℃) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | -10 | | -5 | | 0 | | 5 | | 10 | | 15 | | 20 | |
| | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT |
| 15 | 1.92 | 546 | 2.32 | 655 | 2.71 | 739 | 3.11 | 798 | 3.51 | 848 | 3.87 | 874 | 4.27 | 890 |
| 21 | 1.83 | 588 | 2.20 | 697 | 2.59 | 773 | 2.96 | 832 | 3.36 | 874 | 3.72 | 899 | 4.10 | 932 |
| 26 | 1.65 | 630 | 2.04 | 739 | 2.41 | 815 | 2.81 | 874 | 3.20 | 916 | 3.57 | 941 | 3.97 | 966 |

## MSC-A12WV -E1 : MUH-A12WV -E1

CAPACITY : 3.9 kW INPUT : 1080 W

| INDOOR DB(℃) | OUTDOOR WB(℃) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | -10 | | -5 | | 0 | | 5 | | 10 | | 15 | | 20 | |
| | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT |
| 15 | 2.46 | 702 | 2.96 | 842 | 3.47 | 950 | 3.98 | 1026 | 4.49 | 1091 | 4.95 | 1123 | 5.46 | 1145 |
| 21 | 2.34 | 756 | 2.81 | 896 | 3.32 | 994 | 3.78 | 1069 | 4.29 | 1123 | 4.76 | 1156 | 5.25 | 1199 |
| 26 | 2.11 | 810 | 2.61 | 950 | 3.08 | 1048 | 3.59 | 1123 | 4.10 | 1177 | 4.56 | 1210 | 5.07 | 1242 |

**NOTE** Q:Total capacity (kW) INPUT:Total power input (W) DB:Dry-bulb temperature WB:Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1(Single) : MUX-A10WV -E1

CAPACITY : 2.4(kW) SHF : 0.74 INPUT : 760(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.82 | 1.58 | 0.56 | 608 | 2.70 | 1.51 | 0.56 | 638 | 2.59 | 1.45 | 0.56 | 669 | 2.50 | 1.40 | 0.56 | 699 |
| 21 | 20 | 2.94 | 1.29 | 0.44 | 638 | 2.82 | 1.24 | 0.44 | 676 | 2.74 | 1.20 | 0.44 | 692 | 2.64 | 1.16 | 0.44 | 722 |
| 22 | 18 | 2.82 | 1.69 | 0.60 | 608 | 2.70 | 1.62 | 0.60 | 638 | 2.59 | 1.56 | 0.60 | 669 | 2.50 | 1.50 | 0.60 | 699 |
| 22 | 20 | 2.94 | 1.41 | 0.48 | 638 | 2.82 | 1.35 | 0.48 | 676 | 2.74 | 1.31 | 0.48 | 692 | 2.64 | 1.27 | 0.48 | 722 |
| 22 | 22 | 3.06 | 1.10 | 0.36 | 661 | 2.95 | 1.06 | 0.36 | 703 | 2.88 | 1.04 | 0.36 | 722 | 2.76 | 0.99 | 0.36 | 752 |
| 23 | 18 | 2.82 | 1.80 | 0.64 | 608 | 2.70 | 1.73 | 0.64 | 638 | 2.59 | 1.66 | 0.64 | 669 | 2.50 | 1.60 | 0.64 | 699 |
| 23 | 20 | 2.94 | 1.53 | 0.52 | 638 | 2.82 | 1.47 | 0.52 | 676 | 2.74 | 1.42 | 0.52 | 692 | 2.64 | 1.37 | 0.52 | 722 |
| 23 | 22 | 3.06 | 1.22 | 0.40 | 661 | 2.95 | 1.18 | 0.40 | 703 | 2.88 | 1.15 | 0.40 | 722 | 2.76 | 1.10 | 0.40 | 752 |
| 24 | 18 | 2.82 | 1.92 | 0.68 | 608 | 2.70 | 1.84 | 0.68 | 638 | 2.59 | 1.76 | 0.68 | 669 | 2.50 | 1.70 | 0.68 | 699 |
| 24 | 20 | 2.94 | 1.65 | 0.56 | 638 | 2.82 | 1.58 | 0.56 | 676 | 2.74 | 1.53 | 0.56 | 692 | 2.64 | 1.48 | 0.56 | 722 |
| 24 | 22 | 3.06 | 1.35 | 0.44 | 661 | 2.95 | 1.30 | 0.44 | 703 | 2.88 | 1.27 | 0.44 | 722 | 2.76 | 1.21 | 0.44 | 752 |
| 24 | 24 | 3.22 | 1.03 | 0.32 | 692 | 3.10 | 0.99 | 0.32 | 730 | 3.02 | 0.97 | 0.32 | 752 | 2.93 | 0.94 | 0.32 | 790 |
| 25 | 18 | 2.82 | 2.03 | 0.72 | 608 | 2.70 | 1.94 | 0.72 | 638 | 2.59 | 1.87 | 0.72 | 669 | 2.50 | 1.80 | 0.72 | 699 |
| 25 | 20 | 2.94 | 1.76 | 0.60 | 638 | 2.82 | 1.69 | 0.60 | 676 | 2.74 | 1.64 | 0.60 | 692 | 2.64 | 1.58 | 0.60 | 722 |
| 25 | 22 | 3.06 | 1.47 | 0.48 | 661 | 2.95 | 1.42 | 0.48 | 703 | 2.88 | 1.38 | 0.48 | 722 | 2.76 | 1.32 | 0.48 | 752 |
| 25 | 24 | 3.22 | 1.16 | 0.36 | 692 | 3.10 | 1.11 | 0.36 | 730 | 3.02 | 1.09 | 0.36 | 752 | 2.93 | 1.05 | 0.36 | 790 |
| 26 | 18 | 2.82 | 2.14 | 0.76 | 608 | 2.70 | 2.05 | 0.76 | 638 | 2.59 | 1.97 | 0.76 | 669 | 2.50 | 1.90 | 0.76 | 699 |
| 26 | 20 | 2.94 | 1.88 | 0.64 | 638 | 2.82 | 1.80 | 0.64 | 676 | 2.74 | 1.75 | 0.64 | 692 | 2.64 | 1.69 | 0.64 | 722 |
| 26 | 22 | 3.06 | 1.59 | 0.52 | 661 | 2.95 | 1.54 | 0.52 | 703 | 2.88 | 1.50 | 0.52 | 722 | 2.76 | 1.44 | 0.52 | 752 |
| 26 | 24 | 3.22 | 1.29 | 0.40 | 692 | 3.10 | 1.24 | 0.40 | 730 | 3.02 | 1.21 | 0.40 | 752 | 2.93 | 1.17 | 0.40 | 790 |
| 26 | 26 | 3.31 | 0.93 | 0.28 | 730 | 3.22 | 0.90 | 0.28 | 768 | 3.17 | 0.89 | 0.28 | 790 | 3.07 | 0.86 | 0.28 | 813 |
| 27 | 18 | 2.82 | 2.26 | 0.80 | 608 | 2.70 | 2.16 | 0.80 | 638 | 2.59 | 2.07 | 0.80 | 669 | 2.50 | 2.00 | 0.80 | 699 |
| 27 | 20 | 2.94 | 2.00 | 0.68 | 638 | 2.82 | 1.92 | 0.68 | 676 | 2.74 | 1.86 | 0.68 | 692 | 2.64 | 1.80 | 0.68 | 722 |
| 27 | 22 | 3.06 | 1.71 | 0.56 | 661 | 2.95 | 1.65 | 0.56 | 703 | 2.88 | 1.61 | 0.56 | 722 | 2.76 | 1.55 | 0.56 | 752 |
| 27 | 24 | 3.22 | 1.42 | 0.44 | 692 | 3.10 | 1.36 | 0.44 | 730 | 3.02 | 1.33 | 0.44 | 752 | 2.93 | 1.29 | 0.44 | 790 |
| 27 | 26 | 3.31 | 1.06 | 0.32 | 730 | 3.22 | 1.03 | 0.32 | 768 | 3.17 | 1.01 | 0.32 | 790 | 3.07 | 0.98 | 0.32 | 813 |
| 28 | 18 | 2.82 | 2.37 | 0.84 | 608 | 2.70 | 2.27 | 0.84 | 638 | 2.59 | 2.18 | 0.84 | 669 | 2.50 | 2.10 | 0.84 | 699 |
| 28 | 20 | 2.94 | 2.12 | 0.72 | 638 | 2.82 | 2.03 | 0.72 | 676 | 2.74 | 1.97 | 0.72 | 692 | 2.64 | 1.90 | 0.72 | 722 |
| 28 | 22 | 3.06 | 1.84 | 0.60 | 661 | 2.95 | 1.77 | 0.60 | 703 | 2.88 | 1.73 | 0.60 | 722 | 2.76 | 1.66 | 0.60 | 752 |
| 28 | 24 | 3.22 | 1.54 | 0.48 | 692 | 3.10 | 1.49 | 0.48 | 730 | 3.02 | 1.45 | 0.48 | 752 | 2.93 | 1.41 | 0.48 | 790 |
| 28 | 26 | 3.31 | 1.19 | 0.36 | 730 | 3.22 | 1.16 | 0.36 | 768 | 3.17 | 1.14 | 0.36 | 790 | 3.07 | 1.11 | 0.36 | 813 |
| 29 | 18 | 2.82 | 2.48 | 0.88 | 608 | 2.70 | 2.38 | 0.88 | 638 | 2.59 | 2.28 | 0.88 | 669 | 2.50 | 2.20 | 0.88 | 699 |
| 29 | 20 | 2.94 | 2.23 | 0.76 | 638 | 2.82 | 2.14 | 0.76 | 676 | 2.74 | 2.08 | 0.76 | 692 | 2.64 | 2.01 | 0.76 | 722 |
| 29 | 22 | 3.06 | 1.96 | 0.64 | 661 | 2.95 | 1.89 | 0.64 | 703 | 2.88 | 1.84 | 0.64 | 722 | 2.76 | 1.77 | 0.64 | 752 |
| 29 | 24 | 3.22 | 1.67 | 0.52 | 692 | 3.10 | 1.61 | 0.52 | 730 | 3.02 | 1.57 | 0.52 | 752 | 2.93 | 1.52 | 0.52 | 790 |
| 29 | 26 | 3.31 | 1.32 | 0.40 | 730 | 3.22 | 1.29 | 0.40 | 768 | 3.17 | 1.27 | 0.40 | 790 | 3.07 | 1.23 | 0.40 | 813 |
| 30 | 18 | 2.82 | 2.59 | 0.92 | 608 | 2.70 | 2.48 | 0.92 | 638 | 2.59 | 2.38 | 0.92 | 669 | 2.50 | 2.30 | 0.92 | 699 |
| 30 | 20 | 2.94 | 2.35 | 0.80 | 638 | 2.82 | 2.26 | 0.80 | 676 | 2.74 | 2.19 | 0.80 | 692 | 2.64 | 2.11 | 0.80 | 722 |
| 30 | 22 | 3.06 | 2.08 | 0.68 | 661 | 2.95 | 2.01 | 0.68 | 703 | 2.88 | 1.96 | 0.68 | 722 | 2.76 | 1.88 | 0.68 | 752 |
| 30 | 24 | 3.22 | 1.80 | 0.56 | 692 | 3.10 | 1.73 | 0.56 | 730 | 3.02 | 1.69 | 0.56 | 752 | 2.93 | 1.64 | 0.56 | 790 |
| 30 | 26 | 3.31 | 1.46 | 0.44 | 730 | 3.22 | 1.42 | 0.44 | 768 | 3.17 | 1.39 | 0.44 | 790 | 3.07 | 1.35 | 0.44 | 813 |
| 31 | 18 | 2.82 | 2.71 | 0.96 | 608 | 2.70 | 2.59 | 0.96 | 638 | 2.59 | 2.49 | 0.96 | 669 | 2.50 | 2.40 | 0.96 | 699 |
| 31 | 20 | 2.94 | 2.47 | 0.84 | 638 | 2.82 | 2.37 | 0.84 | 676 | 2.74 | 2.30 | 0.84 | 692 | 2.64 | 2.22 | 0.84 | 722 |
| 31 | 22 | 3.06 | 2.20 | 0.72 | 661 | 2.95 | 2.13 | 0.72 | 703 | 2.88 | 2.07 | 0.72 | 722 | 2.76 | 1.99 | 0.72 | 752 |
| 31 | 24 | 3.22 | 1.93 | 0.60 | 692 | 3.10 | 1.86 | 0.60 | 730 | 3.02 | 1.81 | 0.60 | 752 | 2.93 | 1.76 | 0.60 | 790 |
| 31 | 26 | 3.31 | 1.59 | 0.48 | 730 | 3.22 | 1.54 | 0.48 | 768 | 3.17 | 1.52 | 0.48 | 790 | 3.07 | 1.47 | 0.48 | 813 |
| 32 | 18 | 2.82 | 2.82 | 1.00 | 608 | 2.70 | 2.70 | 1.00 | 638 | 2.59 | 2.59 | 1.00 | 669 | 2.50 | 2.50 | 1.00 | 699 |
| 32 | 20 | 2.94 | 2.59 | 0.88 | 638 | 2.82 | 2.48 | 0.88 | 676 | 2.74 | 2.41 | 0.88 | 692 | 2.64 | 2.32 | 0.88 | 722 |
| 32 | 22 | 3.06 | 2.33 | 0.76 | 661 | 2.95 | 2.24 | 0.76 | 703 | 2.88 | 2.19 | 0.76 | 722 | 2.76 | 2.10 | 0.76 | 752 |
| 32 | 24 | 3.22 | 2.06 | 0.64 | 692 | 3.10 | 1.98 | 0.64 | 730 | 3.02 | 1.94 | 0.64 | 752 | 2.93 | 1.87 | 0.64 | 790 |
| 32 | 26 | 3.31 | 1.72 | 0.52 | 730 | 3.22 | 1.67 | 0.52 | 768 | 3.17 | 1.65 | 0.52 | 790 | 3.07 | 1.60 | 0.52 | 813 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1(Single) : MUX-A10WV -E1

CAPACITY : 2.4(kW) SHF : 0.74 INPUT : 760(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.35 | 1.32 | 0.56 | 745 | 2.16 | 1.21 | 0.56 | 790 | 2.08 | 1.16 | 0.56 | 806 |
| 21 | 20 | 2.47 | 1.09 | 0.44 | 775 | 2.30 | 1.01 | 0.44 | 813 | 2.22 | 0.98 | 0.44 | 836 |
| 22 | 18 | 2.35 | 1.41 | 0.60 | 745 | 2.16 | 1.30 | 0.60 | 790 | 2.08 | 1.25 | 0.60 | 806 |
| 22 | 20 | 2.47 | 1.19 | 0.48 | 775 | 2.30 | 1.11 | 0.48 | 813 | 2.22 | 1.07 | 0.48 | 836 |
| 22 | 22 | 2.62 | 0.94 | 0.36 | 806 | 2.45 | 0.88 | 0.36 | 851 | 2.36 | 0.85 | 0.36 | 866 |
| 23 | 18 | 2.35 | 1.51 | 0.64 | 745 | 2.16 | 1.38 | 0.64 | 790 | 2.08 | 1.33 | 0.64 | 806 |
| 23 | 20 | 2.47 | 1.29 | 0.52 | 775 | 2.30 | 1.20 | 0.52 | 813 | 2.22 | 1.15 | 0.52 | 836 |
| 23 | 22 | 2.62 | 1.05 | 0.40 | 806 | 2.45 | 0.98 | 0.40 | 851 | 2.36 | 0.95 | 0.40 | 866 |
| 24 | 18 | 2.35 | 1.60 | 0.68 | 745 | 2.16 | 1.47 | 0.68 | 790 | 2.08 | 1.41 | 0.68 | 806 |
| 24 | 20 | 2.47 | 1.38 | 0.56 | 775 | 2.30 | 1.29 | 0.56 | 813 | 2.22 | 1.24 | 0.56 | 836 |
| 24 | 22 | 2.62 | 1.15 | 0.44 | 806 | 2.45 | 1.08 | 0.44 | 851 | 2.36 | 1.04 | 0.44 | 866 |
| 24 | 24 | 2.76 | 0.88 | 0.32 | 836 | 2.59 | 0.83 | 0.32 | 874 | 2.52 | 0.81 | 0.32 | 893 |
| 25 | 18 | 2.35 | 1.69 | 0.72 | 745 | 2.16 | 1.56 | 0.72 | 790 | 2.08 | 1.49 | 0.72 | 806 |
| 25 | 20 | 2.47 | 1.48 | 0.60 | 775 | 2.30 | 1.38 | 0.60 | 813 | 2.22 | 1.33 | 0.60 | 836 |
| 25 | 22 | 2.62 | 1.26 | 0.48 | 806 | 2.45 | 1.18 | 0.48 | 851 | 2.36 | 1.13 | 0.48 | 866 |
| 25 | 24 | 2.76 | 0.99 | 0.36 | 836 | 2.59 | 0.93 | 0.36 | 874 | 2.52 | 0.91 | 0.36 | 893 |
| 26 | 18 | 2.35 | 1.79 | 0.76 | 745 | 2.16 | 1.64 | 0.76 | 790 | 2.08 | 1.58 | 0.76 | 806 |
| 26 | 20 | 2.47 | 1.58 | 0.64 | 775 | 2.30 | 1.47 | 0.64 | 813 | 2.22 | 1.42 | 0.64 | 836 |
| 26 | 22 | 2.62 | 1.36 | 0.52 | 806 | 2.45 | 1.27 | 0.52 | 851 | 2.36 | 1.23 | 0.52 | 866 |
| 26 | 24 | 2.76 | 1.10 | 0.40 | 836 | 2.59 | 1.04 | 0.40 | 874 | 2.52 | 1.01 | 0.40 | 893 |
| 26 | 26 | 2.90 | 0.81 | 0.28 | 866 | 2.74 | 0.77 | 0.28 | 904 | 2.65 | 0.74 | 0.28 | 923 |
| 27 | 18 | 2.35 | 1.88 | 0.80 | 745 | 2.16 | 1.73 | 0.80 | 790 | 2.08 | 1.66 | 0.80 | 806 |
| 27 | 20 | 2.47 | 1.68 | 0.68 | 775 | 2.30 | 1.57 | 0.68 | 813 | 2.22 | 1.51 | 0.68 | 836 |
| 27 | 22 | 2.62 | 1.46 | 0.56 | 806 | 2.45 | 1.37 | 0.56 | 851 | 2.36 | 1.32 | 0.56 | 866 |
| 27 | 24 | 2.76 | 1.21 | 0.44 | 836 | 2.59 | 1.14 | 0.44 | 874 | 2.52 | 1.11 | 0.44 | 893 |
| 27 | 26 | 2.90 | 0.93 | 0.32 | 866 | 2.74 | 0.88 | 0.32 | 904 | 2.65 | 0.85 | 0.32 | 923 |
| 28 | 18 | 2.35 | 1.98 | 0.84 | 745 | 2.16 | 1.81 | 0.84 | 790 | 2.08 | 1.74 | 0.84 | 806 |
| 28 | 20 | 2.47 | 1.78 | 0.72 | 775 | 2.30 | 1.66 | 0.72 | 813 | 2.22 | 1.60 | 0.72 | 836 |
| 28 | 22 | 2.62 | 1.57 | 0.60 | 806 | 2.45 | 1.47 | 0.60 | 851 | 2.36 | 1.42 | 0.60 | 866 |
| 28 | 24 | 2.76 | 1.32 | 0.48 | 836 | 2.59 | 1.24 | 0.48 | 874 | 2.52 | 1.21 | 0.48 | 893 |
| 28 | 26 | 2.90 | 1.05 | 0.36 | 866 | 2.74 | 0.98 | 0.36 | 904 | 2.65 | 0.95 | 0.36 | 923 |
| 29 | 18 | 2.35 | 2.07 | 0.88 | 745 | 2.16 | 1.90 | 0.88 | 790 | 2.08 | 1.83 | 0.88 | 806 |
| 29 | 20 | 2.47 | 1.88 | 0.76 | 775 | 2.30 | 1.75 | 0.76 | 813 | 2.22 | 1.69 | 0.76 | 836 |
| 29 | 22 | 2.62 | 1.67 | 0.64 | 806 | 2.45 | 1.57 | 0.64 | 851 | 2.36 | 1.51 | 0.64 | 866 |
| 29 | 24 | 2.76 | 1.44 | 0.52 | 836 | 2.59 | 1.35 | 0.52 | 874 | 2.52 | 1.31 | 0.52 | 893 |
| 29 | 26 | 2.90 | 1.16 | 0.40 | 866 | 2.74 | 1.09 | 0.40 | 904 | 2.65 | 1.06 | 0.40 | 923 |
| 30 | 18 | 2.35 | 2.16 | 0.92 | 745 | 2.16 | 1.99 | 0.92 | 790 | 2.08 | 1.91 | 0.92 | 806 |
| 30 | 20 | 2.47 | 1.98 | 0.80 | 775 | 2.30 | 1.84 | 0.80 | 813 | 2.22 | 1.78 | 0.80 | 836 |
| 30 | 22 | 2.62 | 1.78 | 0.68 | 806 | 2.45 | 1.66 | 0.68 | 851 | 2.36 | 1.61 | 0.68 | 866 |
| 30 | 24 | 2.76 | 1.55 | 0.56 | 836 | 2.59 | 1.45 | 0.56 | 874 | 2.52 | 1.41 | 0.56 | 893 |
| 30 | 26 | 2.90 | 1.28 | 0.44 | 866 | 2.74 | 1.20 | 0.44 | 904 | 2.65 | 1.17 | 0.44 | 923 |
| 31 | 18 | 2.35 | 2.26 | 0.96 | 745 | 2.16 | 2.07 | 0.96 | 790 | 2.08 | 1.99 | 0.96 | 806 |
| 31 | 20 | 2.47 | 2.08 | 0.84 | 775 | 2.30 | 1.94 | 0.84 | 813 | 2.22 | 1.86 | 0.84 | 836 |
| 31 | 22 | 2.62 | 1.88 | 0.72 | 806 | 2.45 | 1.76 | 0.72 | 851 | 2.36 | 1.70 | 0.72 | 866 |
| 31 | 24 | 2.76 | 1.66 | 0.60 | 836 | 2.59 | 1.56 | 0.60 | 874 | 2.52 | 1.51 | 0.60 | 893 |
| 31 | 26 | 2.90 | 1.39 | 0.48 | 866 | 2.74 | 1.31 | 0.48 | 904 | 2.65 | 1.27 | 0.48 | 923 |
| 32 | 18 | 2.35 | 2.35 | 1.00 | 745 | 2.16 | 2.16 | 1.00 | 790 | 2.08 | 2.08 | 1.00 | 806 |
| 32 | 20 | 2.47 | 2.18 | 0.88 | 775 | 2.30 | 2.03 | 0.88 | 813 | 2.22 | 1.95 | 0.88 | 836 |
| 32 | 22 | 2.62 | 1.99 | 0.76 | 806 | 2.45 | 1.86 | 0.76 | 851 | 2.36 | 1.80 | 0.76 | 866 |
| 32 | 24 | 2.76 | 1.77 | 0.64 | 836 | 2.59 | 1.66 | 0.64 | 874 | 2.52 | 1.61 | 0.64 | 893 |
| 32 | 26 | 2.90 | 1.51 | 0.52 | 866 | 2.74 | 1.42 | 0.52 | 904 | 2.65 | 1.38 | 0.52 | 923 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1 (Single : Room B) : MUX-A19WV -E1

CAPACITY : 2.4(kW) SHF : 0.74 INPUT : 820(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.82 | 1.58 | 0.56 | 656 | 2.70 | 1.51 | 0.56 | 689 | 2.59 | 1.45 | 0.56 | 722 | 2.50 | 1.40 | 0.56 | 754 |
| 21 | 20 | 2.94 | 1.29 | 0.44 | 689 | 2.82 | 1.24 | 0.44 | 730 | 2.74 | 1.20 | 0.44 | 746 | 2.64 | 1.16 | 0.44 | 779 |
| 22 | 18 | 2.82 | 1.69 | 0.60 | 656 | 2.70 | 1.62 | 0.60 | 689 | 2.59 | 1.56 | 0.60 | 722 | 2.50 | 1.50 | 0.60 | 754 |
| 22 | 20 | 2.94 | 1.41 | 0.48 | 689 | 2.82 | 1.35 | 0.48 | 730 | 2.74 | 1.31 | 0.48 | 746 | 2.64 | 1.27 | 0.48 | 779 |
| 22 | 22 | 3.06 | 1.10 | 0.36 | 713 | 2.95 | 1.06 | 0.36 | 759 | 2.88 | 1.04 | 0.36 | 779 | 2.76 | 0.99 | 0.36 | 812 |
| 23 | 18 | 2.82 | 1.80 | 0.64 | 656 | 2.70 | 1.73 | 0.64 | 689 | 2.59 | 1.66 | 0.64 | 722 | 2.50 | 1.60 | 0.64 | 754 |
| 23 | 20 | 2.94 | 1.53 | 0.52 | 689 | 2.82 | 1.47 | 0.52 | 730 | 2.74 | 1.42 | 0.52 | 746 | 2.64 | 1.37 | 0.52 | 779 |
| 23 | 22 | 3.06 | 1.22 | 0.40 | 713 | 2.95 | 1.18 | 0.40 | 759 | 2.88 | 1.15 | 0.40 | 779 | 2.76 | 1.10 | 0.40 | 812 |
| 24 | 18 | 2.82 | 1.92 | 0.68 | 656 | 2.70 | 1.84 | 0.68 | 689 | 2.59 | 1.76 | 0.68 | 722 | 2.50 | 1.70 | 0.68 | 754 |
| 24 | 20 | 2.94 | 1.65 | 0.56 | 689 | 2.82 | 1.58 | 0.56 | 730 | 2.74 | 1.53 | 0.56 | 746 | 2.64 | 1.48 | 0.56 | 779 |
| 24 | 22 | 3.06 | 1.35 | 0.44 | 713 | 2.95 | 1.30 | 0.44 | 759 | 2.88 | 1.27 | 0.44 | 779 | 2.76 | 1.21 | 0.44 | 812 |
| 24 | 24 | 3.22 | 1.03 | 0.32 | 746 | 3.10 | 0.99 | 0.32 | 787 | 3.02 | 0.97 | 0.32 | 812 | 2.93 | 0.94 | 0.32 | 853 |
| 25 | 18 | 2.82 | 2.03 | 0.72 | 656 | 2.70 | 1.94 | 0.72 | 689 | 2.59 | 1.87 | 0.72 | 722 | 2.50 | 1.80 | 0.72 | 754 |
| 25 | 20 | 2.94 | 1.76 | 0.60 | 689 | 2.82 | 1.69 | 0.60 | 730 | 2.74 | 1.64 | 0.60 | 746 | 2.64 | 1.58 | 0.60 | 779 |
| 25 | 22 | 3.06 | 1.47 | 0.48 | 713 | 2.95 | 1.42 | 0.48 | 759 | 2.88 | 1.38 | 0.48 | 779 | 2.76 | 1.32 | 0.48 | 812 |
| 25 | 24 | 3.22 | 1.16 | 0.36 | 746 | 3.10 | 1.11 | 0.36 | 787 | 3.02 | 1.09 | 0.36 | 812 | 2.93 | 1.05 | 0.36 | 853 |
| 26 | 18 | 2.82 | 2.14 | 0.76 | 656 | 2.70 | 2.05 | 0.76 | 689 | 2.59 | 1.97 | 0.76 | 722 | 2.50 | 1.90 | 0.76 | 754 |
| 26 | 20 | 2.94 | 1.88 | 0.64 | 689 | 2.82 | 1.80 | 0.64 | 730 | 2.74 | 1.75 | 0.64 | 746 | 2.64 | 1.69 | 0.64 | 779 |
| 26 | 22 | 3.06 | 1.59 | 0.52 | 713 | 2.95 | 1.54 | 0.52 | 759 | 2.88 | 1.50 | 0.52 | 779 | 2.76 | 1.44 | 0.52 | 812 |
| 26 | 24 | 3.22 | 1.29 | 0.40 | 746 | 3.10 | 1.24 | 0.40 | 787 | 3.02 | 1.21 | 0.40 | 812 | 2.93 | 1.17 | 0.40 | 853 |
| 26 | 26 | 3.31 | 0.93 | 0.28 | 787 | 3.22 | 0.90 | 0.28 | 828 | 3.17 | 0.89 | 0.28 | 853 | 3.07 | 0.86 | 0.28 | 877 |
| 27 | 18 | 2.82 | 2.26 | 0.80 | 656 | 2.70 | 2.16 | 0.80 | 689 | 2.59 | 2.07 | 0.80 | 722 | 2.50 | 2.00 | 0.80 | 754 |
| 27 | 20 | 2.94 | 2.00 | 0.68 | 689 | 2.82 | 1.92 | 0.68 | 730 | 2.74 | 1.86 | 0.68 | 746 | 2.64 | 1.80 | 0.68 | 779 |
| 27 | 22 | 3.06 | 1.71 | 0.56 | 713 | 2.95 | 1.65 | 0.56 | 759 | 2.88 | 1.61 | 0.56 | 779 | 2.76 | 1.55 | 0.56 | 812 |
| 27 | 24 | 3.22 | 1.42 | 0.44 | 746 | 3.10 | 1.36 | 0.44 | 787 | 3.02 | 1.33 | 0.44 | 812 | 2.93 | 1.29 | 0.44 | 853 |
| 27 | 26 | 3.31 | 1.06 | 0.32 | 787 | 3.22 | 1.03 | 0.32 | 828 | 3.17 | 1.01 | 0.32 | 853 | 3.07 | 0.98 | 0.32 | 877 |
| 28 | 18 | 2.82 | 2.37 | 0.84 | 656 | 2.70 | 2.27 | 0.84 | 689 | 2.59 | 2.18 | 0.84 | 722 | 2.50 | 2.10 | 0.84 | 754 |
| 28 | 20 | 2.94 | 2.12 | 0.72 | 689 | 2.82 | 2.03 | 0.72 | 730 | 2.74 | 1.97 | 0.72 | 746 | 2.64 | 1.90 | 0.72 | 779 |
| 28 | 22 | 3.06 | 1.84 | 0.60 | 713 | 2.95 | 1.77 | 0.60 | 759 | 2.88 | 1.73 | 0.60 | 779 | 2.76 | 1.66 | 0.60 | 812 |
| 28 | 24 | 3.22 | 1.54 | 0.48 | 746 | 3.10 | 1.49 | 0.48 | 787 | 3.02 | 1.45 | 0.48 | 812 | 2.93 | 1.41 | 0.48 | 853 |
| 28 | 26 | 3.31 | 1.19 | 0.36 | 787 | 3.22 | 1.16 | 0.36 | 828 | 3.17 | 1.14 | 0.36 | 853 | 3.07 | 1.11 | 0.36 | 877 |
| 29 | 18 | 2.82 | 2.48 | 0.88 | 656 | 2.70 | 2.38 | 0.88 | 689 | 2.59 | 2.28 | 0.88 | 722 | 2.50 | 2.20 | 0.88 | 754 |
| 29 | 20 | 2.94 | 2.23 | 0.76 | 689 | 2.82 | 2.14 | 0.76 | 730 | 2.74 | 2.08 | 0.76 | 746 | 2.64 | 2.01 | 0.76 | 779 |
| 29 | 22 | 3.06 | 1.96 | 0.64 | 713 | 2.95 | 1.89 | 0.64 | 759 | 2.88 | 1.84 | 0.64 | 779 | 2.76 | 1.77 | 0.64 | 812 |
| 29 | 24 | 3.22 | 1.67 | 0.52 | 746 | 3.10 | 1.61 | 0.52 | 787 | 3.02 | 1.57 | 0.52 | 812 | 2.93 | 1.52 | 0.52 | 853 |
| 29 | 26 | 3.31 | 1.32 | 0.40 | 787 | 3.22 | 1.29 | 0.40 | 828 | 3.17 | 1.27 | 0.40 | 853 | 3.07 | 1.23 | 0.40 | 877 |
| 30 | 18 | 2.82 | 2.59 | 0.92 | 656 | 2.70 | 2.48 | 0.92 | 689 | 2.59 | 2.38 | 0.92 | 722 | 2.50 | 2.30 | 0.92 | 754 |
| 30 | 20 | 2.94 | 2.35 | 0.80 | 689 | 2.82 | 2.26 | 0.80 | 730 | 2.74 | 2.19 | 0.80 | 746 | 2.64 | 2.11 | 0.80 | 779 |
| 30 | 22 | 3.06 | 2.08 | 0.68 | 713 | 2.95 | 2.01 | 0.68 | 759 | 2.88 | 1.96 | 0.68 | 779 | 2.76 | 1.88 | 0.68 | 812 |
| 30 | 24 | 3.22 | 1.80 | 0.56 | 746 | 3.10 | 1.73 | 0.56 | 787 | 3.02 | 1.69 | 0.56 | 812 | 2.93 | 1.64 | 0.56 | 853 |
| 30 | 26 | 3.31 | 1.46 | 0.44 | 787 | 3.22 | 1.42 | 0.44 | 828 | 3.17 | 1.39 | 0.44 | 853 | 3.07 | 1.35 | 0.44 | 877 |
| 31 | 18 | 2.82 | 2.71 | 0.96 | 656 | 2.70 | 2.59 | 0.96 | 689 | 2.59 | 2.49 | 0.96 | 722 | 2.50 | 2.40 | 0.96 | 754 |
| 31 | 20 | 2.94 | 2.47 | 0.84 | 689 | 2.82 | 2.37 | 0.84 | 730 | 2.74 | 2.30 | 0.84 | 746 | 2.64 | 2.22 | 0.84 | 779 |
| 31 | 22 | 3.06 | 2.20 | 0.72 | 713 | 2.95 | 2.13 | 0.72 | 759 | 2.88 | 2.07 | 0.72 | 779 | 2.76 | 1.99 | 0.72 | 812 |
| 31 | 24 | 3.22 | 1.93 | 0.60 | 746 | 3.10 | 1.86 | 0.60 | 787 | 3.02 | 1.81 | 0.60 | 812 | 2.93 | 1.76 | 0.60 | 853 |
| 31 | 26 | 3.31 | 1.59 | 0.48 | 787 | 3.22 | 1.54 | 0.48 | 828 | 3.17 | 1.52 | 0.48 | 853 | 3.07 | 1.47 | 0.48 | 877 |
| 32 | 18 | 2.82 | 2.82 | 1.00 | 656 | 2.70 | 2.70 | 1.00 | 689 | 2.59 | 2.59 | 1.00 | 722 | 2.50 | 2.50 | 1.00 | 754 |
| 32 | 20 | 2.94 | 2.59 | 0.88 | 689 | 2.82 | 2.48 | 0.88 | 730 | 2.74 | 2.41 | 0.88 | 746 | 2.64 | 2.32 | 0.88 | 779 |
| 32 | 22 | 3.06 | 2.33 | 0.76 | 713 | 2.95 | 2.24 | 0.76 | 759 | 2.88 | 2.19 | 0.76 | 779 | 2.76 | 2.10 | 0.76 | 812 |
| 32 | 24 | 3.22 | 2.06 | 0.64 | 746 | 3.10 | 1.98 | 0.64 | 787 | 3.02 | 1.94 | 0.64 | 812 | 2.93 | 1.87 | 0.64 | 853 |
| 32 | 26 | 3.31 | 1.72 | 0.52 | 787 | 3.22 | 1.67 | 0.52 | 828 | 3.17 | 1.65 | 0.52 | 853 | 3.07 | 1.60 | 0.52 | 877 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A07WV -E1 (Single : Room B) : MUX-A19WV -E1

CAPACITY : 2.4(kW) SHF : 0.74 INPUT : 820(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.35 | 1.32 | 0.56 | 804 | 2.16 | 1.21 | 0.56 | 853 | 2.08 | 1.16 | 0.56 | 869 |
| 21 | 20 | 2.47 | 1.09 | 0.44 | 836 | 2.30 | 1.01 | 0.44 | 877 | 2.22 | 0.98 | 0.44 | 902 |
| 22 | 18 | 2.35 | 1.41 | 0.60 | 804 | 2.16 | 1.30 | 0.60 | 853 | 2.08 | 1.25 | 0.60 | 869 |
| 22 | 20 | 2.47 | 1.19 | 0.48 | 836 | 2.30 | 1.11 | 0.48 | 877 | 2.22 | 1.07 | 0.48 | 902 |
| 22 | 22 | 2.62 | 0.94 | 0.36 | 869 | 2.45 | 0.88 | 0.36 | 918 | 2.36 | 0.85 | 0.36 | 935 |
| 23 | 18 | 2.35 | 1.51 | 0.64 | 804 | 2.16 | 1.38 | 0.64 | 853 | 2.08 | 1.33 | 0.64 | 869 |
| 23 | 20 | 2.47 | 1.29 | 0.52 | 836 | 2.30 | 1.20 | 0.52 | 877 | 2.22 | 1.15 | 0.52 | 902 |
| 23 | 22 | 2.62 | 1.05 | 0.40 | 869 | 2.45 | 0.98 | 0.40 | 918 | 2.36 | 0.95 | 0.40 | 935 |
| 24 | 18 | 2.35 | 1.60 | 0.68 | 804 | 2.16 | 1.47 | 0.68 | 853 | 2.08 | 1.41 | 0.68 | 869 |
| 24 | 20 | 2.47 | 1.38 | 0.56 | 836 | 2.30 | 1.29 | 0.56 | 877 | 2.22 | 1.24 | 0.56 | 902 |
| 24 | 22 | 2.62 | 1.15 | 0.44 | 869 | 2.45 | 1.08 | 0.44 | 918 | 2.36 | 1.04 | 0.44 | 935 |
| 24 | 24 | 2.76 | 0.88 | 0.32 | 902 | 2.59 | 0.83 | 0.32 | 943 | 2.52 | 0.81 | 0.32 | 964 |
| 25 | 18 | 2.35 | 1.69 | 0.72 | 804 | 2.16 | 1.56 | 0.72 | 853 | 2.08 | 1.49 | 0.72 | 869 |
| 25 | 20 | 2.47 | 1.48 | 0.60 | 836 | 2.30 | 1.38 | 0.60 | 877 | 2.22 | 1.33 | 0.60 | 902 |
| 25 | 22 | 2.62 | 1.26 | 0.48 | 869 | 2.45 | 1.18 | 0.48 | 918 | 2.36 | 1.13 | 0.48 | 935 |
| 25 | 24 | 2.76 | 0.99 | 0.36 | 902 | 2.59 | 0.93 | 0.36 | 943 | 2.52 | 0.91 | 0.36 | 964 |
| 26 | 18 | 2.35 | 1.79 | 0.76 | 804 | 2.16 | 1.64 | 0.76 | 853 | 2.08 | 1.58 | 0.76 | 869 |
| 26 | 20 | 2.47 | 1.58 | 0.64 | 836 | 2.30 | 1.47 | 0.64 | 877 | 2.22 | 1.42 | 0.64 | 902 |
| 26 | 22 | 2.62 | 1.36 | 0.52 | 869 | 2.45 | 1.27 | 0.52 | 918 | 2.36 | 1.23 | 0.52 | 935 |
| 26 | 24 | 2.76 | 1.10 | 0.40 | 902 | 2.59 | 1.04 | 0.40 | 943 | 2.52 | 1.01 | 0.40 | 964 |
| 26 | 26 | 2.90 | 0.81 | 0.28 | 935 | 2.74 | 0.77 | 0.28 | 976 | 2.65 | 0.74 | 0.28 | 996 |
| 27 | 18 | 2.35 | 1.88 | 0.80 | 804 | 2.16 | 1.73 | 0.80 | 853 | 2.08 | 1.66 | 0.80 | 869 |
| 27 | 20 | 2.47 | 1.68 | 0.68 | 836 | 2.30 | 1.57 | 0.68 | 877 | 2.22 | 1.51 | 0.68 | 902 |
| 27 | 22 | 2.62 | 1.46 | 0.56 | 869 | 2.45 | 1.37 | 0.56 | 918 | 2.36 | 1.32 | 0.56 | 935 |
| 27 | 24 | 2.76 | 1.21 | 0.44 | 902 | 2.59 | 1.14 | 0.44 | 943 | 2.52 | 1.11 | 0.44 | 964 |
| 27 | 26 | 2.90 | 0.93 | 0.32 | 935 | 2.74 | 0.88 | 0.32 | 976 | 2.65 | 0.85 | 0.32 | 996 |
| 28 | 18 | 2.35 | 1.98 | 0.84 | 804 | 2.16 | 1.81 | 0.84 | 853 | 2.08 | 1.74 | 0.84 | 869 |
| 28 | 20 | 2.47 | 1.78 | 0.72 | 836 | 2.30 | 1.66 | 0.72 | 877 | 2.22 | 1.60 | 0.72 | 902 |
| 28 | 22 | 2.62 | 1.57 | 0.60 | 869 | 2.45 | 1.47 | 0.60 | 918 | 2.36 | 1.42 | 0.60 | 935 |
| 28 | 24 | 2.76 | 1.32 | 0.48 | 902 | 2.59 | 1.24 | 0.48 | 943 | 2.52 | 1.21 | 0.48 | 964 |
| 28 | 26 | 2.90 | 1.05 | 0.36 | 935 | 2.74 | 0.98 | 0.36 | 976 | 2.65 | 0.95 | 0.36 | 996 |
| 29 | 18 | 2.35 | 2.07 | 0.88 | 804 | 2.16 | 1.90 | 0.88 | 853 | 2.08 | 1.83 | 0.88 | 869 |
| 29 | 20 | 2.47 | 1.88 | 0.76 | 836 | 2.30 | 1.75 | 0.76 | 877 | 2.22 | 1.69 | 0.76 | 902 |
| 29 | 22 | 2.62 | 1.67 | 0.64 | 869 | 2.45 | 1.57 | 0.64 | 918 | 2.36 | 1.51 | 0.64 | 935 |
| 29 | 24 | 2.76 | 1.44 | 0.52 | 902 | 2.59 | 1.35 | 0.52 | 943 | 2.52 | 1.31 | 0.52 | 964 |
| 29 | 26 | 2.90 | 1.16 | 0.40 | 935 | 2.74 | 1.09 | 0.40 | 976 | 2.65 | 1.06 | 0.40 | 996 |
| 30 | 18 | 2.35 | 2.16 | 0.92 | 804 | 2.16 | 1.99 | 0.92 | 853 | 2.08 | 1.91 | 0.92 | 869 |
| 30 | 20 | 2.47 | 1.98 | 0.80 | 836 | 2.30 | 1.84 | 0.80 | 877 | 2.22 | 1.78 | 0.80 | 902 |
| 30 | 22 | 2.62 | 1.78 | 0.68 | 869 | 2.45 | 1.66 | 0.68 | 918 | 2.36 | 1.61 | 0.68 | 935 |
| 30 | 24 | 2.76 | 1.55 | 0.56 | 902 | 2.59 | 1.45 | 0.56 | 943 | 2.52 | 1.41 | 0.56 | 964 |
| 30 | 26 | 2.90 | 1.28 | 0.44 | 935 | 2.74 | 1.20 | 0.44 | 976 | 2.65 | 1.17 | 0.44 | 996 |
| 31 | 18 | 2.35 | 2.26 | 0.96 | 804 | 2.16 | 2.07 | 0.96 | 853 | 2.08 | 1.99 | 0.96 | 869 |
| 31 | 20 | 2.47 | 2.08 | 0.84 | 836 | 2.30 | 1.94 | 0.84 | 877 | 2.22 | 1.86 | 0.84 | 902 |
| 31 | 22 | 2.62 | 1.88 | 0.72 | 869 | 2.45 | 1.76 | 0.72 | 918 | 2.36 | 1.70 | 0.72 | 935 |
| 31 | 24 | 2.76 | 1.66 | 0.60 | 902 | 2.59 | 1.56 | 0.60 | 943 | 2.52 | 1.51 | 0.60 | 964 |
| 31 | 26 | 2.90 | 1.39 | 0.48 | 935 | 2.74 | 1.31 | 0.48 | 976 | 2.65 | 1.27 | 0.48 | 996 |
| 32 | 18 | 2.35 | 2.35 | 1.00 | 804 | 2.16 | 2.16 | 1.00 | 853 | 2.08 | 2.08 | 1.00 | 869 |
| 32 | 20 | 2.47 | 2.18 | 0.88 | 836 | 2.30 | 2.03 | 0.88 | 877 | 2.22 | 1.95 | 0.88 | 902 |
| 32 | 22 | 2.62 | 1.99 | 0.76 | 869 | 2.45 | 1.86 | 0.76 | 918 | 2.36 | 1.80 | 0.76 | 935 |
| 32 | 24 | 2.76 | 1.77 | 0.64 | 902 | 2.59 | 1.66 | 0.64 | 943 | 2.52 | 1.61 | 0.64 | 964 |
| 32 | 26 | 2.90 | 1.51 | 0.52 | 935 | 2.74 | 1.42 | 0.52 | 976 | 2.65 | 1.38 | 0.52 | 996 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 (Single : Room A) : MUX-A19WV -E1

CAPACITY : 3.5(kW) SHF : 0.73 INPUT : 1320(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 4.11 | 2.25 | 0.55 | 1056 | 3.94 | 2.15 | 0.55 | 1109 | 3.78 | 2.07 | 0.55 | 1162 | 3.64 | 1.99 | 0.55 | 1214 |
| 21 | 20 | 4.29 | 1.83 | 0.43 | 1109 | 4.11 | 1.76 | 0.43 | 1175 | 3.99 | 1.70 | 0.43 | 1201 | 3.85 | 1.64 | 0.43 | 1254 |
| 22 | 18 | 4.11 | 2.41 | 0.59 | 1056 | 3.94 | 2.31 | 0.59 | 1109 | 3.78 | 2.22 | 0.59 | 1162 | 3.64 | 2.14 | 0.59 | 1214 |
| 22 | 20 | 4.29 | 2.00 | 0.47 | 1109 | 4.11 | 1.92 | 0.47 | 1175 | 3.99 | 1.86 | 0.47 | 1201 | 3.85 | 1.80 | 0.47 | 1254 |
| 22 | 22 | 4.46 | 1.55 | 0.35 | 1148 | 4.31 | 1.49 | 0.35 | 1221 | 4.20 | 1.46 | 0.35 | 1254 | 4.03 | 1.40 | 0.35 | 1307 |
| 23 | 18 | 4.11 | 2.58 | 0.63 | 1056 | 3.94 | 2.47 | 0.63 | 1109 | 3.78 | 2.37 | 0.63 | 1162 | 3.64 | 2.28 | 0.63 | 1214 |
| 23 | 20 | 4.29 | 2.17 | 0.51 | 1109 | 4.11 | 2.09 | 0.51 | 1175 | 3.99 | 2.02 | 0.51 | 1201 | 3.85 | 1.95 | 0.51 | 1254 |
| 23 | 22 | 4.46 | 1.73 | 0.39 | 1148 | 4.31 | 1.67 | 0.39 | 1221 | 4.20 | 1.63 | 0.39 | 1254 | 4.03 | 1.56 | 0.39 | 1307 |
| 24 | 18 | 4.11 | 2.74 | 0.67 | 1056 | 3.94 | 2.63 | 0.67 | 1109 | 3.78 | 2.52 | 0.67 | 1162 | 3.64 | 2.43 | 0.67 | 1214 |
| 24 | 20 | 4.29 | 2.35 | 0.55 | 1109 | 4.11 | 2.25 | 0.55 | 1175 | 3.99 | 2.18 | 0.55 | 1201 | 3.85 | 2.11 | 0.55 | 1254 |
| 24 | 22 | 4.46 | 1.91 | 0.43 | 1148 | 4.31 | 1.84 | 0.43 | 1221 | 4.20 | 1.79 | 0.43 | 1254 | 4.03 | 1.72 | 0.43 | 1307 |
| 24 | 24 | 4.69 | 1.44 | 0.31 | 1201 | 4.52 | 1.39 | 0.31 | 1267 | 4.41 | 1.35 | 0.31 | 1307 | 4.27 | 1.31 | 0.31 | 1373 |
| 25 | 18 | 4.11 | 2.91 | 0.71 | 1056 | 3.94 | 2.78 | 0.71 | 1109 | 3.78 | 2.67 | 0.71 | 1162 | 3.64 | 2.57 | 0.71 | 1214 |
| 25 | 20 | 4.29 | 2.52 | 0.59 | 1109 | 4.11 | 2.41 | 0.59 | 1175 | 3.99 | 2.34 | 0.59 | 1201 | 3.85 | 2.26 | 0.59 | 1254 |
| 25 | 22 | 4.46 | 2.08 | 0.47 | 1148 | 4.31 | 2.01 | 0.47 | 1221 | 4.20 | 1.96 | 0.47 | 1254 | 4.03 | 1.88 | 0.47 | 1307 |
| 25 | 24 | 4.69 | 1.63 | 0.35 | 1201 | 4.52 | 1.57 | 0.35 | 1267 | 4.41 | 1.53 | 0.35 | 1307 | 4.27 | 1.48 | 0.35 | 1373 |
| 26 | 18 | 4.11 | 3.07 | 0.75 | 1056 | 3.94 | 2.94 | 0.75 | 1109 | 3.78 | 2.82 | 0.75 | 1162 | 3.64 | 2.72 | 0.75 | 1214 |
| 26 | 20 | 4.29 | 2.69 | 0.63 | 1109 | 4.11 | 2.58 | 0.63 | 1175 | 3.99 | 2.50 | 0.63 | 1201 | 3.85 | 2.41 | 0.63 | 1254 |
| 26 | 22 | 4.46 | 2.26 | 0.51 | 1148 | 4.31 | 2.18 | 0.51 | 1221 | 4.20 | 2.13 | 0.51 | 1254 | 4.03 | 2.04 | 0.51 | 1307 |
| 26 | 24 | 4.69 | 1.82 | 0.39 | 1201 | 4.52 | 1.75 | 0.39 | 1267 | 4.41 | 1.71 | 0.39 | 1307 | 4.27 | 1.65 | 0.39 | 1373 |
| 26 | 26 | 4.83 | 1.29 | 0.27 | 1267 | 4.69 | 1.25 | 0.27 | 1333 | 4.62 | 1.23 | 0.27 | 1373 | 4.48 | 1.20 | 0.27 | 1412 |
| 27 | 18 | 4.11 | 3.24 | 0.79 | 1056 | 3.94 | 3.10 | 0.79 | 1109 | 3.78 | 2.97 | 0.79 | 1162 | 3.64 | 2.86 | 0.79 | 1214 |
| 27 | 20 | 4.29 | 2.86 | 0.67 | 1109 | 4.11 | 2.74 | 0.67 | 1175 | 3.99 | 2.66 | 0.67 | 1201 | 3.85 | 2.57 | 0.67 | 1254 |
| 27 | 22 | 4.46 | 2.44 | 0.55 | 1148 | 4.31 | 2.35 | 0.55 | 1221 | 4.20 | 2.30 | 0.55 | 1254 | 4.03 | 2.20 | 0.55 | 1307 |
| 27 | 24 | 4.69 | 2.00 | 0.43 | 1201 | 4.52 | 1.93 | 0.43 | 1267 | 4.41 | 1.88 | 0.43 | 1307 | 4.27 | 1.82 | 0.43 | 1373 |
| 27 | 26 | 4.83 | 1.48 | 0.31 | 1267 | 4.69 | 1.44 | 0.31 | 1333 | 4.62 | 1.42 | 0.31 | 1373 | 4.48 | 1.38 | 0.31 | 1412 |
| 28 | 18 | 4.11 | 3.40 | 0.83 | 1056 | 3.94 | 3.26 | 0.83 | 1109 | 3.78 | 3.13 | 0.83 | 1162 | 3.64 | 3.01 | 0.83 | 1214 |
| 28 | 20 | 4.29 | 3.03 | 0.71 | 1109 | 4.11 | 2.91 | 0.71 | 1175 | 3.99 | 2.82 | 0.71 | 1201 | 3.85 | 2.72 | 0.71 | 1254 |
| 28 | 22 | 4.46 | 2.62 | 0.59 | 1148 | 4.31 | 2.53 | 0.59 | 1221 | 4.20 | 2.47 | 0.59 | 1254 | 4.03 | 2.36 | 0.59 | 1307 |
| 28 | 24 | 4.69 | 2.19 | 0.47 | 1201 | 4.52 | 2.11 | 0.47 | 1267 | 4.41 | 2.06 | 0.47 | 1307 | 4.27 | 1.99 | 0.47 | 1373 |
| 28 | 26 | 4.83 | 1.68 | 0.35 | 1267 | 4.69 | 1.63 | 0.35 | 1333 | 4.62 | 1.60 | 0.35 | 1373 | 4.48 | 1.55 | 0.35 | 1412 |
| 29 | 18 | 4.11 | 3.57 | 0.87 | 1056 | 3.94 | 3.41 | 0.87 | 1109 | 3.78 | 3.28 | 0.87 | 1162 | 3.64 | 3.16 | 0.87 | 1214 |
| 29 | 20 | 4.29 | 3.20 | 0.75 | 1109 | 4.11 | 3.07 | 0.75 | 1175 | 3.99 | 2.98 | 0.75 | 1201 | 3.85 | 2.88 | 0.75 | 1254 |
| 29 | 22 | 4.46 | 2.80 | 0.63 | 1148 | 4.31 | 2.70 | 0.63 | 1221 | 4.20 | 2.63 | 0.63 | 1254 | 4.03 | 2.52 | 0.63 | 1307 |
| 29 | 24 | 4.69 | 2.38 | 0.51 | 1201 | 4.52 | 2.29 | 0.51 | 1267 | 4.41 | 2.24 | 0.51 | 1307 | 4.27 | 2.16 | 0.51 | 1373 |
| 29 | 26 | 4.83 | 1.87 | 0.39 | 1267 | 4.69 | 1.82 | 0.39 | 1333 | 4.62 | 1.79 | 0.39 | 1373 | 4.48 | 1.73 | 0.39 | 1412 |
| 30 | 18 | 4.11 | 3.73 | 0.91 | 1056 | 3.94 | 3.57 | 0.91 | 1109 | 3.78 | 3.43 | 0.91 | 1162 | 3.64 | 3.30 | 0.91 | 1214 |
| 30 | 20 | 4.29 | 3.37 | 0.79 | 1109 | 4.11 | 3.24 | 0.79 | 1175 | 3.99 | 3.14 | 0.79 | 1201 | 3.85 | 3.03 | 0.79 | 1254 |
| 30 | 22 | 4.46 | 2.98 | 0.67 | 1148 | 4.31 | 2.87 | 0.67 | 1221 | 4.20 | 2.80 | 0.67 | 1254 | 4.03 | 2.68 | 0.67 | 1307 |
| 30 | 24 | 4.69 | 2.57 | 0.55 | 1201 | 4.52 | 2.47 | 0.55 | 1267 | 4.41 | 2.41 | 0.55 | 1307 | 4.27 | 2.34 | 0.55 | 1373 |
| 30 | 26 | 4.83 | 2.06 | 0.43 | 1267 | 4.69 | 2.00 | 0.43 | 1333 | 4.62 | 1.97 | 0.43 | 1373 | 4.48 | 1.91 | 0.43 | 1412 |
| 31 | 18 | 4.11 | 3.89 | 0.95 | 1056 | 3.94 | 3.73 | 0.95 | 1109 | 3.78 | 3.58 | 0.95 | 1162 | 3.64 | 3.45 | 0.95 | 1214 |
| 31 | 20 | 4.29 | 3.55 | 0.83 | 1109 | 4.11 | 3.40 | 0.83 | 1175 | 3.99 | 3.30 | 0.83 | 1201 | 3.85 | 3.18 | 0.83 | 1254 |
| 31 | 22 | 4.46 | 3.15 | 0.71 | 1148 | 4.31 | 3.04 | 0.71 | 1221 | 4.20 | 2.97 | 0.71 | 1254 | 4.03 | 2.85 | 0.71 | 1307 |
| 31 | 24 | 4.69 | 2.75 | 0.59 | 1201 | 4.52 | 2.65 | 0.59 | 1267 | 4.41 | 2.59 | 0.59 | 1307 | 4.27 | 2.51 | 0.59 | 1373 |
| 31 | 26 | 4.83 | 2.26 | 0.47 | 1267 | 4.69 | 2.19 | 0.47 | 1333 | 4.62 | 2.16 | 0.47 | 1373 | 4.48 | 2.09 | 0.47 | 1412 |
| 32 | 18 | 4.11 | 4.06 | 0.99 | 1056 | 3.94 | 3.89 | 0.99 | 1109 | 3.78 | 3.73 | 0.99 | 1162 | 3.64 | 3.59 | 0.99 | 1214 |
| 32 | 20 | 4.29 | 3.72 | 0.87 | 1109 | 4.11 | 3.57 | 0.87 | 1175 | 3.99 | 3.46 | 0.87 | 1201 | 3.85 | 3.34 | 0.87 | 1254 |
| 32 | 22 | 4.46 | 3.33 | 0.75 | 1148 | 4.31 | 3.22 | 0.75 | 1221 | 4.20 | 3.14 | 0.75 | 1254 | 4.03 | 3.01 | 0.75 | 1307 |
| 32 | 24 | 4.69 | 2.94 | 0.63 | 1201 | 4.52 | 2.83 | 0.63 | 1267 | 4.41 | 2.77 | 0.63 | 1307 | 4.27 | 2.68 | 0.63 | 1373 |
| 32 | 26 | 4.83 | 2.45 | 0.51 | 1267 | 4.69 | 2.38 | 0.51 | 1333 | 4.62 | 2.34 | 0.51 | 1373 | 4.48 | 2.27 | 0.51 | 1412 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 (Single : Room A) : MUX-A19WV -E1

CAPACITY : 3.5(kW) SHF : 0.73 INPUT : 1320(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.43 | 1.88 | 0.55 | 1294 | 3.15 | 1.72 | 0.55 | 1373 | 3.03 | 1.66 | 0.55 | 1399 |
| 21 | 20 | 3.61 | 1.54 | 0.43 | 1346 | 3.36 | 1.43 | 0.43 | 1412 | 3.24 | 1.38 | 0.43 | 1452 |
| 22 | 18 | 3.43 | 2.01 | 0.59 | 1294 | 3.15 | 1.85 | 0.59 | 1373 | 3.03 | 1.78 | 0.59 | 1399 |
| 22 | 20 | 3.61 | 1.68 | 0.47 | 1346 | 3.36 | 1.57 | 0.47 | 1412 | 3.24 | 1.51 | 0.47 | 1452 |
| 22 | 22 | 3.82 | 1.32 | 0.35 | 1399 | 3.57 | 1.24 | 0.35 | 1478 | 3.45 | 1.20 | 0.35 | 1505 |
| 23 | 18 | 3.43 | 2.15 | 0.63 | 1294 | 3.15 | 1.98 | 0.63 | 1373 | 3.03 | 1.90 | 0.63 | 1399 |
| 23 | 20 | 3.61 | 1.83 | 0.51 | 1346 | 3.36 | 1.70 | 0.51 | 1412 | 3.24 | 1.64 | 0.51 | 1452 |
| 23 | 22 | 3.82 | 1.48 | 0.39 | 1399 | 3.57 | 1.38 | 0.39 | 1478 | 3.45 | 1.33 | 0.39 | 1505 |
| 24 | 18 | 3.43 | 2.29 | 0.67 | 1294 | 3.15 | 2.10 | 0.67 | 1373 | 3.03 | 2.02 | 0.67 | 1399 |
| 24 | 20 | 3.61 | 1.97 | 0.55 | 1346 | 3.36 | 1.84 | 0.55 | 1412 | 3.24 | 1.77 | 0.55 | 1452 |
| 24 | 22 | 3.82 | 1.63 | 0.43 | 1399 | 3.57 | 1.52 | 0.43 | 1478 | 3.45 | 1.47 | 0.43 | 1505 |
| 24 | 24 | 4.03 | 1.24 | 0.31 | 1452 | 3.78 | 1.16 | 0.31 | 1518 | 3.68 | 1.13 | 0.31 | 1551 |
| 25 | 18 | 3.43 | 2.43 | 0.71 | 1294 | 3.15 | 2.23 | 0.71 | 1373 | 3.03 | 2.14 | 0.71 | 1399 |
| 25 | 20 | 3.61 | 2.12 | 0.59 | 1346 | 3.36 | 1.97 | 0.59 | 1412 | 3.24 | 1.90 | 0.59 | 1452 |
| 25 | 22 | 3.82 | 1.78 | 0.47 | 1399 | 3.57 | 1.67 | 0.47 | 1478 | 3.45 | 1.61 | 0.47 | 1505 |
| 25 | 24 | 4.03 | 1.40 | 0.35 | 1452 | 3.78 | 1.31 | 0.35 | 1518 | 3.68 | 1.28 | 0.35 | 1551 |
| 26 | 18 | 3.43 | 2.56 | 0.75 | 1294 | 3.15 | 2.35 | 0.75 | 1373 | 3.03 | 2.26 | 0.75 | 1399 |
| 26 | 20 | 3.61 | 2.26 | 0.63 | 1346 | 3.36 | 2.11 | 0.63 | 1412 | 3.24 | 2.03 | 0.63 | 1452 |
| 26 | 22 | 3.82 | 1.93 | 0.51 | 1399 | 3.57 | 1.81 | 0.51 | 1478 | 3.45 | 1.75 | 0.51 | 1505 |
| 26 | 24 | 4.03 | 1.56 | 0.39 | 1452 | 3.78 | 1.46 | 0.39 | 1518 | 3.68 | 1.42 | 0.39 | 1551 |
| 26 | 26 | 4.24 | 1.13 | 0.27 | 1505 | 3.99 | 1.07 | 0.27 | 1571 | 3.87 | 1.03 | 0.27 | 1604 |
| 27 | 18 | 3.43 | 2.70 | 0.79 | 1294 | 3.15 | 2.48 | 0.79 | 1373 | 3.03 | 2.38 | 0.79 | 1399 |
| 27 | 20 | 3.61 | 2.40 | 0.67 | 1346 | 3.36 | 2.24 | 0.67 | 1412 | 3.24 | 2.16 | 0.67 | 1452 |
| 27 | 22 | 3.82 | 2.09 | 0.55 | 1399 | 3.57 | 1.95 | 0.55 | 1478 | 3.45 | 1.89 | 0.55 | 1505 |
| 27 | 24 | 4.03 | 1.72 | 0.43 | 1452 | 3.78 | 1.61 | 0.43 | 1518 | 3.68 | 1.57 | 0.43 | 1551 |
| 27 | 26 | 4.24 | 1.30 | 0.31 | 1505 | 3.99 | 1.22 | 0.31 | 1571 | 3.87 | 1.19 | 0.31 | 1604 |
| 28 | 18 | 3.43 | 2.84 | 0.83 | 1294 | 3.15 | 2.61 | 0.83 | 1373 | 3.03 | 2.50 | 0.83 | 1399 |
| 28 | 20 | 3.61 | 2.55 | 0.71 | 1346 | 3.36 | 2.38 | 0.71 | 1412 | 3.24 | 2.29 | 0.71 | 1452 |
| 28 | 22 | 3.82 | 2.24 | 0.59 | 1399 | 3.57 | 2.10 | 0.59 | 1478 | 3.45 | 2.02 | 0.59 | 1505 |
| 28 | 24 | 4.03 | 1.88 | 0.47 | 1452 | 3.78 | 1.77 | 0.47 | 1518 | 3.68 | 1.72 | 0.47 | 1551 |
| 28 | 26 | 4.24 | 1.47 | 0.35 | 1505 | 3.99 | 1.38 | 0.35 | 1571 | 3.87 | 1.34 | 0.35 | 1604 |
| 29 | 18 | 3.43 | 2.97 | 0.87 | 1294 | 3.15 | 2.73 | 0.87 | 1373 | 3.03 | 2.62 | 0.87 | 1399 |
| 29 | 20 | 3.61 | 2.69 | 0.75 | 1346 | 3.36 | 2.51 | 0.75 | 1412 | 3.24 | 2.42 | 0.75 | 1452 |
| 29 | 22 | 3.82 | 2.39 | 0.63 | 1399 | 3.57 | 2.24 | 0.63 | 1478 | 3.45 | 2.16 | 0.63 | 1505 |
| 29 | 24 | 4.03 | 2.04 | 0.51 | 1452 | 3.78 | 1.92 | 0.51 | 1518 | 3.68 | 1.86 | 0.51 | 1551 |
| 29 | 26 | 4.24 | 1.64 | 0.39 | 1505 | 3.99 | 1.54 | 0.39 | 1571 | 3.87 | 1.50 | 0.39 | 1604 |
| 30 | 18 | 3.43 | 3.11 | 0.91 | 1294 | 3.15 | 2.86 | 0.91 | 1373 | 3.03 | 2.75 | 0.91 | 1399 |
| 30 | 20 | 3.61 | 2.84 | 0.79 | 1346 | 3.36 | 2.64 | 0.79 | 1412 | 3.24 | 2.55 | 0.79 | 1452 |
| 30 | 22 | 3.82 | 2.54 | 0.67 | 1399 | 3.57 | 2.38 | 0.67 | 1478 | 3.45 | 2.30 | 0.67 | 1505 |
| 30 | 24 | 4.03 | 2.20 | 0.55 | 1452 | 3.78 | 2.07 | 0.55 | 1518 | 3.68 | 2.01 | 0.55 | 1551 |
| 30 | 26 | 4.24 | 1.81 | 0.43 | 1505 | 3.99 | 1.70 | 0.43 | 1571 | 3.87 | 1.65 | 0.43 | 1604 |
| 31 | 18 | 3.43 | 3.25 | 0.95 | 1294 | 3.15 | 2.98 | 0.95 | 1373 | 3.03 | 2.87 | 0.95 | 1399 |
| 31 | 20 | 3.61 | 2.98 | 0.83 | 1346 | 3.36 | 2.78 | 0.83 | 1412 | 3.24 | 2.68 | 0.83 | 1452 |
| 31 | 22 | 3.82 | 2.70 | 0.71 | 1399 | 3.57 | 2.52 | 0.71 | 1478 | 3.45 | 2.44 | 0.71 | 1505 |
| 31 | 24 | 4.03 | 2.36 | 0.59 | 1452 | 3.78 | 2.22 | 0.59 | 1518 | 3.68 | 2.16 | 0.59 | 1551 |
| 31 | 26 | 4.24 | 1.98 | 0.47 | 1505 | 3.99 | 1.86 | 0.47 | 1571 | 3.87 | 1.81 | 0.47 | 1604 |
| 32 | 18 | 3.43 | 3.39 | 0.99 | 1294 | 3.15 | 3.11 | 0.99 | 1373 | 3.03 | 2.99 | 0.99 | 1399 |
| 32 | 20 | 3.61 | 3.13 | 0.87 | 1346 | 3.36 | 2.91 | 0.87 | 1412 | 3.24 | 2.81 | 0.87 | 1452 |
| 32 | 22 | 3.82 | 2.85 | 0.75 | 1399 | 3.57 | 2.67 | 0.75 | 1478 | 3.45 | 2.58 | 0.75 | 1505 |
| 32 | 24 | 4.03 | 2.52 | 0.63 | 1452 | 3.78 | 2.37 | 0.63 | 1518 | 3.68 | 2.30 | 0.63 | 1551 |
| 32 | 26 | 4.24 | 2.15 | 0.51 | 1505 | 3.99 | 2.02 | 0.51 | 1571 | 3.87 | 1.96 | 0.51 | 1604 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 (Single : Room A) : MUX-A20WV -E1

CAPACITY : 2.6(kW) SHF : 0.75 INPUT : 850(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.06 | 1.74 | 0.57 | 680 | 2.93 | 1.67 | 0.57 | 714 | 2.81 | 1.60 | 0.57 | 748 | 2.70 | 1.54 | 0.57 | 782 |
| 21 | 20 | 3.19 | 1.43 | 0.45 | 714 | 3.06 | 1.37 | 0.45 | 757 | 2.96 | 1.33 | 0.45 | 774 | 2.86 | 1.29 | 0.45 | 808 |
| 22 | 18 | 3.06 | 1.86 | 0.61 | 680 | 2.93 | 1.78 | 0.61 | 714 | 2.81 | 1.71 | 0.61 | 748 | 2.70 | 1.65 | 0.61 | 782 |
| 22 | 20 | 3.19 | 1.56 | 0.49 | 714 | 3.06 | 1.50 | 0.49 | 757 | 2.96 | 1.45 | 0.49 | 774 | 2.86 | 1.40 | 0.49 | 808 |
| 22 | 22 | 3.32 | 1.23 | 0.37 | 740 | 3.20 | 1.18 | 0.37 | 786 | 3.12 | 1.15 | 0.37 | 808 | 2.99 | 1.11 | 0.37 | 842 |
| 23 | 18 | 3.06 | 1.99 | 0.65 | 680 | 2.93 | 1.90 | 0.65 | 714 | 2.81 | 1.83 | 0.65 | 748 | 2.70 | 1.76 | 0.65 | 782 |
| 23 | 20 | 3.19 | 1.69 | 0.53 | 714 | 3.06 | 1.62 | 0.53 | 757 | 2.96 | 1.57 | 0.53 | 774 | 2.86 | 1.52 | 0.53 | 808 |
| 23 | 22 | 3.32 | 1.36 | 0.41 | 740 | 3.20 | 1.31 | 0.41 | 786 | 3.12 | 1.28 | 0.41 | 808 | 2.99 | 1.23 | 0.41 | 842 |
| 24 | 18 | 3.06 | 2.11 | 0.69 | 680 | 2.93 | 2.02 | 0.69 | 714 | 2.81 | 1.94 | 0.69 | 748 | 2.70 | 1.87 | 0.69 | 782 |
| 24 | 20 | 3.19 | 1.82 | 0.57 | 714 | 3.06 | 1.74 | 0.57 | 757 | 2.96 | 1.69 | 0.57 | 774 | 2.86 | 1.63 | 0.57 | 808 |
| 24 | 22 | 3.32 | 1.49 | 0.45 | 740 | 3.20 | 1.44 | 0.45 | 786 | 3.12 | 1.40 | 0.45 | 808 | 2.99 | 1.35 | 0.45 | 842 |
| 24 | 24 | 3.48 | 1.15 | 0.33 | 774 | 3.35 | 1.11 | 0.33 | 816 | 3.28 | 1.08 | 0.33 | 842 | 3.17 | 1.05 | 0.33 | 884 |
| 25 | 18 | 3.06 | 2.23 | 0.73 | 680 | 2.93 | 2.14 | 0.73 | 714 | 2.81 | 2.05 | 0.73 | 748 | 2.70 | 1.97 | 0.73 | 782 |
| 25 | 20 | 3.19 | 1.94 | 0.61 | 714 | 3.06 | 1.86 | 0.61 | 757 | 2.96 | 1.81 | 0.61 | 774 | 2.86 | 1.74 | 0.61 | 808 |
| 25 | 22 | 3.32 | 1.62 | 0.49 | 740 | 3.20 | 1.57 | 0.49 | 786 | 3.12 | 1.53 | 0.49 | 808 | 2.99 | 1.47 | 0.49 | 842 |
| 25 | 24 | 3.48 | 1.29 | 0.37 | 774 | 3.35 | 1.24 | 0.37 | 816 | 3.28 | 1.21 | 0.37 | 842 | 3.17 | 1.17 | 0.37 | 884 |
| 26 | 18 | 3.06 | 2.35 | 0.77 | 680 | 2.93 | 2.25 | 0.77 | 714 | 2.81 | 2.16 | 0.77 | 748 | 2.70 | 2.08 | 0.77 | 782 |
| 26 | 20 | 3.19 | 2.07 | 0.65 | 714 | 3.06 | 1.99 | 0.65 | 757 | 2.96 | 1.93 | 0.65 | 774 | 2.86 | 1.86 | 0.65 | 808 |
| 26 | 22 | 3.32 | 1.76 | 0.53 | 740 | 3.20 | 1.69 | 0.53 | 786 | 3.12 | 1.65 | 0.53 | 808 | 2.99 | 1.58 | 0.53 | 842 |
| 26 | 24 | 3.48 | 1.43 | 0.41 | 774 | 3.35 | 1.38 | 0.41 | 816 | 3.28 | 1.34 | 0.41 | 842 | 3.17 | 1.30 | 0.41 | 884 |
| 26 | 26 | 3.59 | 1.04 | 0.29 | 816 | 3.48 | 1.01 | 0.29 | 859 | 3.43 | 1.00 | 0.29 | 884 | 3.33 | 0.97 | 0.29 | 910 |
| 27 | 18 | 3.06 | 2.47 | 0.81 | 680 | 2.93 | 2.37 | 0.81 | 714 | 2.81 | 2.27 | 0.81 | 748 | 2.70 | 2.19 | 0.81 | 782 |
| 27 | 20 | 3.19 | 2.20 | 0.69 | 714 | 3.06 | 2.11 | 0.69 | 757 | 2.96 | 2.05 | 0.69 | 774 | 2.86 | 1.97 | 0.69 | 808 |
| 27 | 22 | 3.32 | 1.89 | 0.57 | 740 | 3.20 | 1.82 | 0.57 | 786 | 3.12 | 1.78 | 0.57 | 808 | 2.99 | 1.70 | 0.57 | 842 |
| 27 | 24 | 3.48 | 1.57 | 0.45 | 774 | 3.35 | 1.51 | 0.45 | 816 | 3.28 | 1.47 | 0.45 | 842 | 3.17 | 1.43 | 0.45 | 884 |
| 27 | 26 | 3.59 | 1.18 | 0.33 | 816 | 3.48 | 1.15 | 0.33 | 859 | 3.43 | 1.13 | 0.33 | 884 | 3.33 | 1.10 | 0.33 | 910 |
| 28 | 18 | 3.06 | 2.60 | 0.85 | 680 | 2.93 | 2.49 | 0.85 | 714 | 2.81 | 2.39 | 0.85 | 748 | 2.70 | 2.30 | 0.85 | 782 |
| 28 | 20 | 3.19 | 2.33 | 0.73 | 714 | 3.06 | 2.23 | 0.73 | 757 | 2.96 | 2.16 | 0.73 | 774 | 2.86 | 2.09 | 0.73 | 808 |
| 28 | 22 | 3.32 | 2.02 | 0.61 | 740 | 3.20 | 1.95 | 0.61 | 786 | 3.12 | 1.90 | 0.61 | 808 | 2.99 | 1.82 | 0.61 | 842 |
| 28 | 24 | 3.48 | 1.71 | 0.49 | 774 | 3.35 | 1.64 | 0.49 | 816 | 3.28 | 1.61 | 0.49 | 842 | 3.17 | 1.55 | 0.49 | 884 |
| 28 | 26 | 3.59 | 1.33 | 0.37 | 816 | 3.48 | 1.29 | 0.37 | 859 | 3.43 | 1.27 | 0.37 | 884 | 3.33 | 1.23 | 0.37 | 910 |
| 29 | 18 | 3.06 | 2.72 | 0.89 | 680 | 2.93 | 2.60 | 0.89 | 714 | 2.81 | 2.50 | 0.89 | 748 | 2.70 | 2.41 | 0.89 | 782 |
| 29 | 20 | 3.19 | 2.45 | 0.77 | 714 | 3.06 | 2.35 | 0.77 | 757 | 2.96 | 2.28 | 0.77 | 774 | 2.86 | 2.20 | 0.77 | 808 |
| 29 | 22 | 3.32 | 2.15 | 0.65 | 740 | 3.20 | 2.08 | 0.65 | 786 | 3.12 | 2.03 | 0.65 | 808 | 2.99 | 1.94 | 0.65 | 842 |
| 29 | 24 | 3.48 | 1.85 | 0.53 | 774 | 3.35 | 1.78 | 0.53 | 816 | 3.28 | 1.74 | 0.53 | 842 | 3.17 | 1.68 | 0.53 | 884 |
| 29 | 26 | 3.59 | 1.47 | 0.41 | 816 | 3.48 | 1.43 | 0.41 | 859 | 3.43 | 1.41 | 0.41 | 884 | 3.33 | 1.36 | 0.41 | 910 |
| 30 | 18 | 3.06 | 2.84 | 0.93 | 680 | 2.93 | 2.72 | 0.93 | 714 | 2.81 | 2.61 | 0.93 | 748 | 2.70 | 2.51 | 0.93 | 782 |
| 30 | 20 | 3.19 | 2.58 | 0.81 | 714 | 3.06 | 2.47 | 0.81 | 757 | 2.96 | 2.40 | 0.81 | 774 | 2.86 | 2.32 | 0.81 | 808 |
| 30 | 22 | 3.32 | 2.29 | 0.69 | 740 | 3.20 | 2.21 | 0.69 | 786 | 3.12 | 2.15 | 0.69 | 808 | 2.99 | 2.06 | 0.69 | 842 |
| 30 | 24 | 3.48 | 1.99 | 0.57 | 774 | 3.35 | 1.91 | 0.57 | 816 | 3.28 | 1.87 | 0.57 | 842 | 3.17 | 1.81 | 0.57 | 884 |
| 30 | 26 | 3.59 | 1.61 | 0.45 | 816 | 3.48 | 1.57 | 0.45 | 859 | 3.43 | 1.54 | 0.45 | 884 | 3.33 | 1.50 | 0.45 | 910 |
| 31 | 18 | 3.06 | 2.96 | 0.97 | 680 | 2.93 | 2.84 | 0.97 | 714 | 2.81 | 2.72 | 0.97 | 748 | 2.70 | 2.62 | 0.97 | 782 |
| 31 | 20 | 3.19 | 2.71 | 0.85 | 714 | 3.06 | 2.60 | 0.85 | 757 | 2.96 | 2.52 | 0.85 | 774 | 2.86 | 2.43 | 0.85 | 808 |
| 31 | 22 | 3.32 | 2.42 | 0.73 | 740 | 3.20 | 2.33 | 0.73 | 786 | 3.12 | 2.28 | 0.73 | 808 | 2.99 | 2.18 | 0.73 | 842 |
| 31 | 24 | 3.48 | 2.13 | 0.61 | 774 | 3.35 | 2.05 | 0.61 | 816 | 3.28 | 2.00 | 0.61 | 842 | 3.17 | 1.93 | 0.61 | 884 |
| 31 | 26 | 3.59 | 1.76 | 0.49 | 816 | 3.48 | 1.71 | 0.49 | 859 | 3.43 | 1.68 | 0.49 | 884 | 3.33 | 1.63 | 0.49 | 910 |
| 32 | 18 | 3.06 | 3.09 | 1.01 | 680 | 2.93 | 2.95 | 1.01 | 714 | 2.81 | 2.84 | 1.01 | 748 | 2.70 | 2.73 | 1.01 | 782 |
| 32 | 20 | 3.19 | 2.83 | 0.89 | 714 | 3.06 | 2.72 | 0.89 | 757 | 2.96 | 2.64 | 0.89 | 774 | 2.86 | 2.55 | 0.89 | 808 |
| 32 | 22 | 3.32 | 2.55 | 0.77 | 740 | 3.20 | 2.46 | 0.77 | 786 | 3.12 | 2.40 | 0.77 | 808 | 2.99 | 2.30 | 0.77 | 842 |
| 32 | 24 | 3.48 | 2.26 | 0.65 | 774 | 3.35 | 2.18 | 0.65 | 816 | 3.28 | 2.13 | 0.65 | 842 | 3.17 | 2.06 | 0.65 | 884 |
| 32 | 26 | 3.59 | 1.90 | 0.53 | 816 | 3.48 | 1.85 | 0.53 | 859 | 3.43 | 1.82 | 0.53 | 884 | 3.33 | 1.76 | 0.53 | 910 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 (Single : Room A) : MUX-A20WV -E1

CAPACITY : 2.6(kW) SHF : 0.75 INPUT : 850(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.55 | 1.45 | 0.57 | 833 | 2.34 | 1.33 | 0.57 | 884 | 2.25 | 1.28 | 0.57 | 901 |
| 21 | 20 | 2.68 | 1.21 | 0.45 | 867 | 2.50 | 1.12 | 0.45 | 910 | 2.41 | 1.08 | 0.45 | 935 |
| 22 | 18 | 2.55 | 1.55 | 0.61 | 833 | 2.34 | 1.43 | 0.61 | 884 | 2.25 | 1.37 | 0.61 | 901 |
| 22 | 20 | 2.68 | 1.31 | 0.49 | 867 | 2.50 | 1.22 | 0.49 | 910 | 2.41 | 1.18 | 0.49 | 935 |
| 22 | 22 | 2.83 | 1.05 | 0.37 | 901 | 2.65 | 0.98 | 0.37 | 952 | 2.56 | 0.95 | 0.37 | 969 |
| 23 | 18 | 2.55 | 1.66 | 0.65 | 833 | 2.34 | 1.52 | 0.65 | 884 | 2.25 | 1.46 | 0.65 | 901 |
| 23 | 20 | 2.68 | 1.42 | 0.53 | 867 | 2.50 | 1.32 | 0.53 | 910 | 2.41 | 1.27 | 0.53 | 935 |
| 23 | 22 | 2.83 | 1.16 | 0.41 | 901 | 2.65 | 1.09 | 0.41 | 952 | 2.56 | 1.05 | 0.41 | 969 |
| 24 | 18 | 2.55 | 1.76 | 0.69 | 833 | 2.34 | 1.61 | 0.69 | 884 | 2.25 | 1.55 | 0.69 | 901 |
| 24 | 20 | 2.68 | 1.53 | 0.57 | 867 | 2.50 | 1.42 | 0.57 | 910 | 2.41 | 1.37 | 0.57 | 935 |
| 24 | 22 | 2.83 | 1.28 | 0.45 | 901 | 2.65 | 1.19 | 0.45 | 952 | 2.56 | 1.15 | 0.45 | 969 |
| 24 | 24 | 2.99 | 0.99 | 0.33 | 935 | 2.81 | 0.93 | 0.33 | 978 | 2.73 | 0.90 | 0.33 | 999 |
| 25 | 18 | 2.55 | 1.86 | 0.73 | 833 | 2.34 | 1.71 | 0.73 | 884 | 2.25 | 1.64 | 0.73 | 901 |
| 25 | 20 | 2.68 | 1.63 | 0.61 | 867 | 2.50 | 1.52 | 0.61 | 910 | 2.41 | 1.47 | 0.61 | 935 |
| 25 | 22 | 2.83 | 1.39 | 0.49 | 901 | 2.65 | 1.30 | 0.49 | 952 | 2.56 | 1.25 | 0.49 | 969 |
| 25 | 24 | 2.99 | 1.11 | 0.37 | 935 | 2.81 | 1.04 | 0.37 | 978 | 2.73 | 1.01 | 0.37 | 999 |
| 26 | 18 | 2.55 | 1.96 | 0.77 | 833 | 2.34 | 1.80 | 0.77 | 884 | 2.25 | 1.73 | 0.77 | 901 |
| 26 | 20 | 2.68 | 1.74 | 0.65 | 867 | 2.50 | 1.62 | 0.65 | 910 | 2.41 | 1.56 | 0.65 | 935 |
| 26 | 22 | 2.83 | 1.50 | 0.53 | 901 | 2.65 | 1.41 | 0.53 | 952 | 2.56 | 1.36 | 0.53 | 969 |
| 26 | 24 | 2.99 | 1.23 | 0.41 | 935 | 2.81 | 1.15 | 0.41 | 978 | 2.73 | 1.12 | 0.41 | 999 |
| 26 | 26 | 3.15 | 0.91 | 0.29 | 969 | 2.96 | 0.86 | 0.29 | 1012 | 2.87 | 0.83 | 0.29 | 1033 |
| 27 | 18 | 2.55 | 2.06 | 0.81 | 833 | 2.34 | 1.90 | 0.81 | 884 | 2.25 | 1.82 | 0.81 | 901 |
| 27 | 20 | 2.68 | 1.85 | 0.69 | 867 | 2.50 | 1.72 | 0.69 | 910 | 2.41 | 1.66 | 0.69 | 935 |
| 27 | 22 | 2.83 | 1.62 | 0.57 | 901 | 2.65 | 1.51 | 0.57 | 952 | 2.56 | 1.46 | 0.57 | 969 |
| 27 | 24 | 2.99 | 1.35 | 0.45 | 935 | 2.81 | 1.26 | 0.45 | 978 | 2.73 | 1.23 | 0.45 | 999 |
| 27 | 26 | 3.15 | 1.04 | 0.33 | 969 | 2.96 | 0.98 | 0.33 | 1012 | 2.87 | 0.95 | 0.33 | 1033 |
| 28 | 18 | 2.55 | 2.17 | 0.85 | 833 | 2.34 | 1.99 | 0.85 | 884 | 2.25 | 1.91 | 0.85 | 901 |
| 28 | 20 | 2.68 | 1.95 | 0.73 | 867 | 2.50 | 1.82 | 0.73 | 910 | 2.41 | 1.76 | 0.73 | 935 |
| 28 | 22 | 2.83 | 1.73 | 0.61 | 901 | 2.65 | 1.62 | 0.61 | 952 | 2.56 | 1.56 | 0.61 | 969 |
| 28 | 24 | 2.99 | 1.47 | 0.49 | 935 | 2.81 | 1.38 | 0.49 | 978 | 2.73 | 1.34 | 0.49 | 999 |
| 28 | 26 | 3.15 | 1.16 | 0.37 | 969 | 2.96 | 1.10 | 0.37 | 1012 | 2.87 | 1.06 | 0.37 | 1033 |
| 29 | 18 | 2.55 | 2.27 | 0.89 | 833 | 2.34 | 2.08 | 0.89 | 884 | 2.25 | 2.00 | 0.89 | 901 |
| 29 | 20 | 2.68 | 2.06 | 0.77 | 867 | 2.50 | 1.92 | 0.77 | 910 | 2.41 | 1.85 | 0.77 | 935 |
| 29 | 22 | 2.83 | 1.84 | 0.65 | 901 | 2.65 | 1.72 | 0.65 | 952 | 2.56 | 1.66 | 0.65 | 969 |
| 29 | 24 | 2.99 | 1.58 | 0.53 | 935 | 2.81 | 1.49 | 0.53 | 978 | 2.73 | 1.45 | 0.53 | 999 |
| 29 | 26 | 3.15 | 1.29 | 0.41 | 969 | 2.96 | 1.22 | 0.41 | 1012 | 2.87 | 1.18 | 0.41 | 1033 |
| 30 | 18 | 2.55 | 2.37 | 0.93 | 833 | 2.34 | 2.18 | 0.93 | 884 | 2.25 | 2.09 | 0.93 | 901 |
| 30 | 20 | 2.68 | 2.17 | 0.81 | 867 | 2.50 | 2.02 | 0.81 | 910 | 2.41 | 1.95 | 0.81 | 935 |
| 30 | 22 | 2.83 | 1.96 | 0.69 | 901 | 2.65 | 1.83 | 0.69 | 952 | 2.56 | 1.77 | 0.69 | 969 |
| 30 | 24 | 2.99 | 1.70 | 0.57 | 935 | 2.81 | 1.60 | 0.57 | 978 | 2.73 | 1.56 | 0.57 | 999 |
| 30 | 26 | 3.15 | 1.42 | 0.45 | 969 | 2.96 | 1.33 | 0.45 | 1012 | 2.87 | 1.29 | 0.45 | 1033 |
| 31 | 18 | 2.55 | 2.47 | 0.97 | 833 | 2.34 | 2.27 | 0.97 | 884 | 2.25 | 2.18 | 0.97 | 901 |
| 31 | 20 | 2.68 | 2.28 | 0.85 | 867 | 2.50 | 2.12 | 0.85 | 910 | 2.41 | 2.04 | 0.85 | 935 |
| 31 | 22 | 2.83 | 2.07 | 0.73 | 901 | 2.65 | 1.94 | 0.73 | 952 | 2.56 | 1.87 | 0.73 | 969 |
| 31 | 24 | 2.99 | 1.82 | 0.61 | 935 | 2.81 | 1.71 | 0.61 | 978 | 2.73 | 1.67 | 0.61 | 999 |
| 31 | 26 | 3.15 | 1.54 | 0.49 | 969 | 2.96 | 1.45 | 0.49 | 1012 | 2.87 | 1.41 | 0.49 | 1033 |
| 32 | 18 | 2.55 | 2.57 | 1.01 | 833 | 2.34 | 2.36 | 1.01 | 884 | 2.25 | 2.27 | 1.01 | 901 |
| 32 | 20 | 2.68 | 2.38 | 0.89 | 867 | 2.50 | 2.22 | 0.89 | 910 | 2.41 | 2.14 | 0.89 | 935 |
| 32 | 22 | 2.83 | 2.18 | 0.77 | 901 | 2.65 | 2.04 | 0.77 | 952 | 2.56 | 1.97 | 0.77 | 969 |
| 32 | 24 | 2.99 | 1.94 | 0.65 | 935 | 2.81 | 1.83 | 0.65 | 978 | 2.73 | 1.77 | 0.65 | 999 |
| 32 | 26 | 3.15 | 1.67 | 0.53 | 969 | 2.96 | 1.57 | 0.53 | 1012 | 2.87 | 1.52 | 0.53 | 1033 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 (Single : Room B) : MUX-A20WV -E1

CAPACITY : 2.9(kW) SHF : 0.71 INPUT : 1110(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.41 | 1.82 | 0.53 | 888 | 3.26 | 1.74 | 0.53 | 932 | 3.13 | 1.67 | 0.53 | 977 | 3.02 | 1.61 | 0.53 | 1021 |
| 21 | 20 | 3.55 | 1.47 | 0.41 | 932 | 3.41 | 1.41 | 0.41 | 988 | 3.31 | 1.37 | 0.41 | 1010 | 3.19 | 1.32 | 0.41 | 1055 |
| 22 | 18 | 3.41 | 1.95 | 0.57 | 888 | 3.26 | 1.87 | 0.57 | 932 | 3.13 | 1.79 | 0.57 | 977 | 3.02 | 1.73 | 0.57 | 1021 |
| 22 | 20 | 3.55 | 1.61 | 0.45 | 932 | 3.41 | 1.54 | 0.45 | 988 | 3.31 | 1.50 | 0.45 | 1010 | 3.19 | 1.45 | 0.45 | 1055 |
| 22 | 22 | 3.70 | 1.23 | 0.33 | 966 | 3.57 | 1.19 | 0.33 | 1027 | 3.48 | 1.16 | 0.33 | 1055 | 3.34 | 1.11 | 0.33 | 1099 |
| 23 | 18 | 3.41 | 2.09 | 0.61 | 888 | 3.26 | 2.00 | 0.61 | 932 | 3.13 | 1.92 | 0.61 | 977 | 3.02 | 1.85 | 0.61 | 1021 |
| 23 | 20 | 3.55 | 1.75 | 0.49 | 932 | 3.41 | 1.68 | 0.49 | 988 | 3.31 | 1.63 | 0.49 | 1010 | 3.19 | 1.57 | 0.49 | 1055 |
| 23 | 22 | 3.70 | 1.38 | 0.37 | 966 | 3.57 | 1.33 | 0.37 | 1027 | 3.48 | 1.30 | 0.37 | 1055 | 3.34 | 1.24 | 0.37 | 1099 |
| 24 | 18 | 3.41 | 2.23 | 0.65 | 888 | 3.26 | 2.13 | 0.65 | 932 | 3.13 | 2.05 | 0.65 | 977 | 3.02 | 1.97 | 0.65 | 1021 |
| 24 | 20 | 3.55 | 1.89 | 0.53 | 932 | 3.41 | 1.82 | 0.53 | 988 | 3.31 | 1.76 | 0.53 | 1010 | 3.19 | 1.70 | 0.53 | 1055 |
| 24 | 22 | 3.70 | 1.53 | 0.41 | 966 | 3.57 | 1.47 | 0.41 | 1027 | 3.48 | 1.44 | 0.41 | 1055 | 3.34 | 1.38 | 0.41 | 1099 |
| 24 | 24 | 3.89 | 1.14 | 0.29 | 1010 | 3.74 | 1.10 | 0.29 | 1066 | 3.65 | 1.07 | 0.29 | 1099 | 3.54 | 1.04 | 0.29 | 1154 |
| 25 | 18 | 3.41 | 2.36 | 0.69 | 888 | 3.26 | 2.26 | 0.69 | 932 | 3.13 | 2.17 | 0.69 | 977 | 3.02 | 2.09 | 0.69 | 1021 |
| 25 | 20 | 3.55 | 2.04 | 0.57 | 932 | 3.41 | 1.95 | 0.57 | 988 | 3.31 | 1.89 | 0.57 | 1010 | 3.19 | 1.83 | 0.57 | 1055 |
| 25 | 22 | 3.70 | 1.67 | 0.45 | 966 | 3.57 | 1.62 | 0.45 | 1027 | 3.48 | 1.58 | 0.45 | 1055 | 3.34 | 1.51 | 0.45 | 1099 |
| 25 | 24 | 3.89 | 1.29 | 0.33 | 1010 | 3.74 | 1.25 | 0.33 | 1066 | 3.65 | 1.22 | 0.33 | 1099 | 3.54 | 1.18 | 0.33 | 1154 |
| 26 | 18 | 3.41 | 2.50 | 0.73 | 888 | 3.26 | 2.39 | 0.73 | 932 | 3.13 | 2.30 | 0.73 | 977 | 3.02 | 2.21 | 0.73 | 1021 |
| 26 | 20 | 3.55 | 2.18 | 0.61 | 932 | 3.41 | 2.09 | 0.61 | 988 | 3.31 | 2.03 | 0.61 | 1010 | 3.19 | 1.96 | 0.61 | 1055 |
| 26 | 22 | 3.70 | 1.82 | 0.49 | 966 | 3.57 | 1.76 | 0.49 | 1027 | 3.48 | 1.72 | 0.49 | 1055 | 3.34 | 1.64 | 0.49 | 1099 |
| 26 | 24 | 3.89 | 1.45 | 0.37 | 1010 | 3.74 | 1.40 | 0.37 | 1066 | 3.65 | 1.36 | 0.37 | 1099 | 3.54 | 1.32 | 0.37 | 1154 |
| 26 | 26 | 4.00 | 1.01 | 0.25 | 1066 | 3.89 | 0.98 | 0.25 | 1121 | 3.83 | 0.97 | 0.25 | 1154 | 3.71 | 0.94 | 0.25 | 1188 |
| 27 | 18 | 3.41 | 2.63 | 0.77 | 888 | 3.26 | 2.52 | 0.77 | 932 | 3.13 | 2.42 | 0.77 | 977 | 3.02 | 2.33 | 0.77 | 1021 |
| 27 | 20 | 3.55 | 2.32 | 0.65 | 932 | 3.41 | 2.23 | 0.65 | 988 | 3.31 | 2.16 | 0.65 | 1010 | 3.19 | 2.08 | 0.65 | 1055 |
| 27 | 22 | 3.70 | 1.97 | 0.53 | 966 | 3.57 | 1.90 | 0.53 | 1027 | 3.48 | 1.85 | 0.53 | 1055 | 3.34 | 1.78 | 0.53 | 1099 |
| 27 | 24 | 3.89 | 1.60 | 0.41 | 1010 | 3.74 | 1.55 | 0.41 | 1066 | 3.65 | 1.51 | 0.41 | 1099 | 3.54 | 1.46 | 0.41 | 1154 |
| 27 | 26 | 4.00 | 1.17 | 0.29 | 1066 | 3.89 | 1.14 | 0.29 | 1121 | 3.83 | 1.12 | 0.29 | 1154 | 3.71 | 1.09 | 0.29 | 1188 |
| 28 | 18 | 3.41 | 2.77 | 0.81 | 888 | 3.26 | 2.65 | 0.81 | 932 | 3.13 | 2.55 | 0.81 | 977 | 3.02 | 2.45 | 0.81 | 1021 |
| 28 | 20 | 3.55 | 2.46 | 0.69 | 932 | 3.41 | 2.36 | 0.69 | 988 | 3.31 | 2.29 | 0.69 | 1010 | 3.19 | 2.21 | 0.69 | 1055 |
| 28 | 22 | 3.70 | 2.12 | 0.57 | 966 | 3.57 | 2.04 | 0.57 | 1027 | 3.48 | 1.99 | 0.57 | 1055 | 3.34 | 1.91 | 0.57 | 1099 |
| 28 | 24 | 3.89 | 1.76 | 0.45 | 1010 | 3.74 | 1.69 | 0.45 | 1066 | 3.65 | 1.66 | 0.45 | 1099 | 3.54 | 1.60 | 0.45 | 1154 |
| 28 | 26 | 4.00 | 1.33 | 0.33 | 1066 | 3.89 | 1.29 | 0.33 | 1121 | 3.83 | 1.27 | 0.33 | 1154 | 3.71 | 1.24 | 0.33 | 1188 |
| 29 | 18 | 3.41 | 2.91 | 0.85 | 888 | 3.26 | 2.78 | 0.85 | 932 | 3.13 | 2.67 | 0.85 | 977 | 3.02 | 2.57 | 0.85 | 1021 |
| 29 | 20 | 3.55 | 2.60 | 0.73 | 932 | 3.41 | 2.50 | 0.73 | 988 | 3.31 | 2.42 | 0.73 | 1010 | 3.19 | 2.34 | 0.73 | 1055 |
| 29 | 22 | 3.70 | 2.27 | 0.61 | 966 | 3.57 | 2.19 | 0.61 | 1027 | 3.48 | 2.13 | 0.61 | 1055 | 3.34 | 2.04 | 0.61 | 1099 |
| 29 | 24 | 3.89 | 1.92 | 0.49 | 1010 | 3.74 | 1.84 | 0.49 | 1066 | 3.65 | 1.80 | 0.49 | 1099 | 3.54 | 1.74 | 0.49 | 1154 |
| 29 | 26 | 4.00 | 1.49 | 0.37 | 1066 | 3.89 | 1.45 | 0.37 | 1121 | 3.83 | 1.43 | 0.37 | 1154 | 3.71 | 1.38 | 0.37 | 1188 |
| 30 | 18 | 3.41 | 3.04 | 0.89 | 888 | 3.26 | 2.91 | 0.89 | 932 | 3.13 | 2.80 | 0.89 | 977 | 3.02 | 2.69 | 0.89 | 1021 |
| 30 | 20 | 3.55 | 2.75 | 0.77 | 932 | 3.41 | 2.63 | 0.77 | 988 | 3.31 | 2.56 | 0.77 | 1010 | 3.19 | 2.47 | 0.77 | 1055 |
| 30 | 22 | 3.70 | 2.41 | 0.65 | 966 | 3.57 | 2.33 | 0.65 | 1027 | 3.48 | 2.27 | 0.65 | 1055 | 3.34 | 2.18 | 0.65 | 1099 |
| 30 | 24 | 3.89 | 2.07 | 0.53 | 1010 | 3.74 | 1.99 | 0.53 | 1066 | 3.65 | 1.95 | 0.53 | 1099 | 3.54 | 1.89 | 0.53 | 1154 |
| 30 | 26 | 4.00 | 1.65 | 0.41 | 1066 | 3.89 | 1.60 | 0.41 | 1121 | 3.83 | 1.58 | 0.41 | 1154 | 3.71 | 1.53 | 0.41 | 1188 |
| 31 | 18 | 3.41 | 3.18 | 0.93 | 888 | 3.26 | 3.04 | 0.93 | 932 | 3.13 | 2.92 | 0.93 | 977 | 3.02 | 2.81 | 0.93 | 1021 |
| 31 | 20 | 3.55 | 2.89 | 0.81 | 932 | 3.41 | 2.77 | 0.81 | 988 | 3.31 | 2.69 | 0.81 | 1010 | 3.19 | 2.59 | 0.81 | 1055 |
| 31 | 22 | 3.70 | 2.56 | 0.69 | 966 | 3.57 | 2.47 | 0.69 | 1027 | 3.48 | 2.41 | 0.69 | 1055 | 3.34 | 2.31 | 0.69 | 1099 |
| 31 | 24 | 3.89 | 2.23 | 0.57 | 1010 | 3.74 | 2.14 | 0.57 | 1066 | 3.65 | 2.09 | 0.57 | 1099 | 3.54 | 2.03 | 0.57 | 1154 |
| 31 | 26 | 4.00 | 1.81 | 0.45 | 1066 | 3.89 | 1.76 | 0.45 | 1121 | 3.83 | 1.73 | 0.45 | 1154 | 3.71 | 1.68 | 0.45 | 1188 |
| 32 | 18 | 3.41 | 3.32 | 0.97 | 888 | 3.26 | 3.17 | 0.97 | 932 | 3.13 | 3.05 | 0.97 | 977 | 3.02 | 2.93 | 0.97 | 1021 |
| 32 | 20 | 3.55 | 3.03 | 0.85 | 932 | 3.41 | 2.91 | 0.85 | 988 | 3.31 | 2.82 | 0.85 | 1010 | 3.19 | 2.72 | 0.85 | 1055 |
| 32 | 22 | 3.70 | 2.71 | 0.73 | 966 | 3.57 | 2.61 | 0.73 | 1027 | 3.48 | 2.55 | 0.73 | 1055 | 3.34 | 2.44 | 0.73 | 1099 |
| 32 | 24 | 3.89 | 2.38 | 0.61 | 1010 | 3.74 | 2.29 | 0.61 | 1066 | 3.65 | 2.24 | 0.61 | 1099 | 3.54 | 2.17 | 0.61 | 1154 |
| 32 | 26 | 4.00 | 1.97 | 0.49 | 1066 | 3.89 | 1.92 | 0.49 | 1121 | 3.83 | 1.89 | 0.49 | 1154 | 3.71 | 1.83 | 0.49 | 1188 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1(Single : Room B) : MUX-A20WV -E1

CAPACITY : 2.9(kW) SHF : 0.71 INPUT : 1110(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.84 | 1.51 | 0.53 | 1088 | 2.61 | 1.39 | 0.53 | 1154 | 2.51 | 1.34 | 0.53 | 1177 |
| 21 | 20 | 2.99 | 1.23 | 0.41 | 1132 | 2.78 | 1.15 | 0.41 | 1188 | 2.68 | 1.11 | 0.41 | 1221 |
| 22 | 18 | 2.84 | 1.63 | 0.57 | 1088 | 2.61 | 1.50 | 0.57 | 1154 | 2.51 | 1.44 | 0.57 | 1177 |
| 22 | 20 | 2.99 | 1.35 | 0.45 | 1132 | 2.78 | 1.26 | 0.45 | 1188 | 2.68 | 1.22 | 0.45 | 1221 |
| 22 | 22 | 3.16 | 1.05 | 0.33 | 1177 | 2.96 | 0.99 | 0.33 | 1243 | 2.86 | 0.95 | 0.33 | 1265 |
| 23 | 18 | 2.84 | 1.74 | 0.61 | 1088 | 2.61 | 1.60 | 0.61 | 1154 | 2.51 | 1.54 | 0.61 | 1177 |
| 23 | 20 | 2.99 | 1.47 | 0.49 | 1132 | 2.78 | 1.37 | 0.49 | 1188 | 2.68 | 1.32 | 0.49 | 1221 |
| 23 | 22 | 3.16 | 1.18 | 0.37 | 1177 | 2.96 | 1.10 | 0.37 | 1243 | 2.86 | 1.07 | 0.37 | 1265 |
| 24 | 18 | 2.84 | 1.86 | 0.65 | 1088 | 2.61 | 1.70 | 0.65 | 1154 | 2.51 | 1.64 | 0.65 | 1177 |
| 24 | 20 | 2.99 | 1.59 | 0.53 | 1132 | 2.78 | 1.48 | 0.53 | 1188 | 2.68 | 1.43 | 0.53 | 1221 |
| 24 | 22 | 3.16 | 1.31 | 0.41 | 1177 | 2.96 | 1.22 | 0.41 | 1243 | 2.86 | 1.18 | 0.41 | 1265 |
| 24 | 24 | 3.34 | 0.98 | 0.29 | 1221 | 3.13 | 0.92 | 0.29 | 1277 | 3.05 | 0.89 | 0.29 | 1304 |
| 25 | 18 | 2.84 | 1.97 | 0.69 | 1088 | 2.61 | 1.81 | 0.69 | 1154 | 2.51 | 1.74 | 0.69 | 1177 |
| 25 | 20 | 2.99 | 1.71 | 0.57 | 1132 | 2.78 | 1.60 | 0.57 | 1188 | 2.68 | 1.54 | 0.57 | 1221 |
| 25 | 22 | 3.16 | 1.43 | 0.45 | 1177 | 2.96 | 1.34 | 0.45 | 1243 | 2.86 | 1.29 | 0.45 | 1265 |
| 25 | 24 | 3.34 | 1.11 | 0.33 | 1221 | 3.13 | 1.04 | 0.33 | 1277 | 3.05 | 1.01 | 0.33 | 1304 |
| 26 | 18 | 2.84 | 2.08 | 0.73 | 1088 | 2.61 | 1.91 | 0.73 | 1154 | 2.51 | 1.84 | 0.73 | 1177 |
| 26 | 20 | 2.99 | 1.83 | 0.61 | 1132 | 2.78 | 1.71 | 0.61 | 1188 | 2.68 | 1.64 | 0.61 | 1221 |
| 26 | 22 | 3.16 | 1.56 | 0.49 | 1177 | 2.96 | 1.46 | 0.49 | 1243 | 2.86 | 1.41 | 0.49 | 1265 |
| 26 | 24 | 3.34 | 1.24 | 0.37 | 1221 | 3.13 | 1.17 | 0.37 | 1277 | 3.05 | 1.14 | 0.37 | 1304 |
| 26 | 26 | 3.51 | 0.89 | 0.25 | 1265 | 3.31 | 0.84 | 0.25 | 1321 | 3.20 | 0.81 | 0.25 | 1349 |
| 27 | 18 | 2.84 | 2.20 | 0.77 | 1088 | 2.61 | 2.02 | 0.77 | 1154 | 2.51 | 1.94 | 0.77 | 1177 |
| 27 | 20 | 2.99 | 1.95 | 0.65 | 1132 | 2.78 | 1.82 | 0.65 | 1188 | 2.68 | 1.75 | 0.65 | 1221 |
| 27 | 22 | 3.16 | 1.68 | 0.53 | 1177 | 2.96 | 1.58 | 0.53 | 1243 | 2.86 | 1.52 | 0.53 | 1265 |
| 27 | 24 | 3.34 | 1.38 | 0.41 | 1221 | 3.13 | 1.29 | 0.41 | 1277 | 3.05 | 1.26 | 0.41 | 1304 |
| 27 | 26 | 3.51 | 1.03 | 0.29 | 1265 | 3.31 | 0.97 | 0.29 | 1321 | 3.20 | 0.94 | 0.29 | 1349 |
| 28 | 18 | 2.84 | 2.31 | 0.81 | 1088 | 2.61 | 2.12 | 0.81 | 1154 | 2.51 | 2.04 | 0.81 | 1177 |
| 28 | 20 | 2.99 | 2.07 | 0.69 | 1132 | 2.78 | 1.93 | 0.69 | 1188 | 2.68 | 1.86 | 0.69 | 1221 |
| 28 | 22 | 3.16 | 1.81 | 0.57 | 1177 | 2.96 | 1.69 | 0.57 | 1243 | 2.86 | 1.64 | 0.57 | 1265 |
| 28 | 24 | 3.34 | 1.51 | 0.45 | 1221 | 3.13 | 1.42 | 0.45 | 1277 | 3.05 | 1.38 | 0.45 | 1304 |
| 28 | 26 | 3.51 | 1.17 | 0.33 | 1265 | 3.31 | 1.10 | 0.33 | 1321 | 3.20 | 1.07 | 0.33 | 1349 |
| 29 | 18 | 2.84 | 2.42 | 0.85 | 1088 | 2.61 | 2.23 | 0.85 | 1154 | 2.51 | 2.14 | 0.85 | 1177 |
| 29 | 20 | 2.99 | 2.19 | 0.73 | 1132 | 2.78 | 2.04 | 0.73 | 1188 | 2.68 | 1.97 | 0.73 | 1221 |
| 29 | 22 | 3.16 | 1.94 | 0.61 | 1177 | 2.96 | 1.81 | 0.61 | 1243 | 2.86 | 1.75 | 0.61 | 1265 |
| 29 | 24 | 3.34 | 1.64 | 0.49 | 1221 | 3.13 | 1.54 | 0.49 | 1277 | 3.05 | 1.50 | 0.49 | 1304 |
| 29 | 26 | 3.51 | 1.31 | 0.37 | 1265 | 3.31 | 1.23 | 0.37 | 1321 | 3.20 | 1.20 | 0.37 | 1349 |
| 30 | 18 | 2.84 | 2.54 | 0.89 | 1088 | 2.61 | 2.33 | 0.89 | 1154 | 2.51 | 2.24 | 0.89 | 1177 |
| 30 | 20 | 2.99 | 2.31 | 0.77 | 1132 | 2.78 | 2.15 | 0.77 | 1188 | 2.68 | 2.07 | 0.77 | 1221 |
| 30 | 22 | 3.16 | 2.06 | 0.65 | 1177 | 2.96 | 1.93 | 0.65 | 1243 | 2.86 | 1.87 | 0.65 | 1265 |
| 30 | 24 | 3.34 | 1.78 | 0.53 | 1221 | 3.13 | 1.67 | 0.53 | 1277 | 3.05 | 1.62 | 0.53 | 1304 |
| 30 | 26 | 3.51 | 1.45 | 0.41 | 1265 | 3.31 | 1.37 | 0.41 | 1321 | 3.20 | 1.32 | 0.41 | 1349 |
| 31 | 18 | 2.84 | 2.65 | 0.93 | 1088 | 2.61 | 2.44 | 0.93 | 1154 | 2.51 | 2.34 | 0.93 | 1177 |
| 31 | 20 | 2.99 | 2.43 | 0.81 | 1132 | 2.78 | 2.26 | 0.81 | 1188 | 2.68 | 2.18 | 0.81 | 1221 |
| 31 | 22 | 3.16 | 2.19 | 0.69 | 1177 | 2.96 | 2.05 | 0.69 | 1243 | 2.86 | 1.98 | 0.69 | 1265 |
| 31 | 24 | 3.34 | 1.91 | 0.57 | 1221 | 3.13 | 1.79 | 0.57 | 1277 | 3.05 | 1.74 | 0.57 | 1304 |
| 31 | 26 | 3.51 | 1.59 | 0.45 | 1265 | 3.31 | 1.50 | 0.45 | 1321 | 3.20 | 1.45 | 0.45 | 1349 |
| 32 | 18 | 2.84 | 2.77 | 0.97 | 1088 | 2.61 | 2.54 | 0.97 | 1154 | 2.51 | 2.44 | 0.97 | 1177 |
| 32 | 20 | 2.99 | 2.55 | 0.85 | 1132 | 2.78 | 2.37 | 0.85 | 1188 | 2.68 | 2.29 | 0.85 | 1221 |
| 32 | 22 | 3.16 | 2.32 | 0.73 | 1177 | 2.96 | 2.17 | 0.73 | 1243 | 2.86 | 2.09 | 0.73 | 1265 |
| 32 | 24 | 3.34 | 2.04 | 0.61 | 1221 | 3.13 | 1.92 | 0.61 | 1277 | 3.05 | 1.87 | 0.61 | 1304 |
| 32 | 26 | 3.51 | 1.73 | 0.49 | 1265 | 3.31 | 1.63 | 0.49 | 1321 | 3.20 | 1.58 | 0.49 | 1349 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1(Single) : MUX-A25WV -E1

CAPACITY : 3.5(kW) SHF : 0.73 INPUT : 1340(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 4.11 | 2.25 | 0.55 | 1072 | 3.94 | 2.15 | 0.55 | 1126 | 3.78 | 2.07 | 0.55 | 1179 | 3.64 | 1.99 | 0.55 | 1233 |
| 21 | 20 | 4.29 | 1.83 | 0.43 | 1126 | 4.11 | 1.76 | 0.43 | 1193 | 3.99 | 1.70 | 0.43 | 1219 | 3.85 | 1.64 | 0.43 | 1273 |
| 22 | 18 | 4.11 | 2.41 | 0.59 | 1072 | 3.94 | 2.31 | 0.59 | 1126 | 3.78 | 2.22 | 0.59 | 1179 | 3.64 | 2.14 | 0.59 | 1233 |
| 22 | 20 | 4.29 | 2.00 | 0.47 | 1126 | 4.11 | 1.92 | 0.47 | 1193 | 3.99 | 1.86 | 0.47 | 1219 | 3.85 | 1.80 | 0.47 | 1273 |
| 22 | 22 | 4.46 | 1.55 | 0.35 | 1166 | 4.31 | 1.49 | 0.35 | 1240 | 4.20 | 1.46 | 0.35 | 1273 | 4.03 | 1.40 | 0.35 | 1327 |
| 23 | 18 | 4.11 | 2.58 | 0.63 | 1072 | 3.94 | 2.47 | 0.63 | 1126 | 3.78 | 2.37 | 0.63 | 1179 | 3.64 | 2.28 | 0.63 | 1233 |
| 23 | 20 | 4.29 | 2.17 | 0.51 | 1126 | 4.11 | 2.09 | 0.51 | 1193 | 3.99 | 2.02 | 0.51 | 1219 | 3.85 | 1.95 | 0.51 | 1273 |
| 23 | 22 | 4.46 | 1.73 | 0.39 | 1166 | 4.31 | 1.67 | 0.39 | 1240 | 4.20 | 1.63 | 0.39 | 1273 | 4.03 | 1.56 | 0.39 | 1327 |
| 24 | 18 | 4.11 | 2.74 | 0.67 | 1072 | 3.94 | 2.63 | 0.67 | 1126 | 3.78 | 2.52 | 0.67 | 1179 | 3.64 | 2.43 | 0.67 | 1233 |
| 24 | 20 | 4.29 | 2.35 | 0.55 | 1126 | 4.11 | 2.25 | 0.55 | 1193 | 3.99 | 2.18 | 0.55 | 1219 | 3.85 | 2.11 | 0.55 | 1273 |
| 24 | 22 | 4.46 | 1.91 | 0.43 | 1166 | 4.31 | 1.84 | 0.43 | 1240 | 4.20 | 1.79 | 0.43 | 1273 | 4.03 | 1.72 | 0.43 | 1327 |
| 24 | 24 | 4.69 | 1.44 | 0.31 | 1219 | 4.52 | 1.39 | 0.31 | 1286 | 4.41 | 1.35 | 0.31 | 1327 | 4.27 | 1.31 | 0.31 | 1394 |
| 25 | 18 | 4.11 | 2.91 | 0.71 | 1072 | 3.94 | 2.78 | 0.71 | 1126 | 3.78 | 2.67 | 0.71 | 1179 | 3.64 | 2.57 | 0.71 | 1233 |
| 25 | 20 | 4.29 | 2.52 | 0.59 | 1126 | 4.11 | 2.41 | 0.59 | 1193 | 3.99 | 2.34 | 0.59 | 1219 | 3.85 | 2.26 | 0.59 | 1273 |
| 25 | 22 | 4.46 | 2.08 | 0.47 | 1166 | 4.31 | 2.01 | 0.47 | 1240 | 4.20 | 1.96 | 0.47 | 1273 | 4.03 | 1.88 | 0.47 | 1327 |
| 25 | 24 | 4.69 | 1.63 | 0.35 | 1219 | 4.52 | 1.57 | 0.35 | 1286 | 4.41 | 1.53 | 0.35 | 1327 | 4.27 | 1.48 | 0.35 | 1394 |
| 26 | 18 | 4.11 | 3.07 | 0.75 | 1072 | 3.94 | 2.94 | 0.75 | 1126 | 3.78 | 2.82 | 0.75 | 1179 | 3.64 | 2.72 | 0.75 | 1233 |
| 26 | 20 | 4.29 | 2.69 | 0.63 | 1126 | 4.11 | 2.58 | 0.63 | 1193 | 3.99 | 2.50 | 0.63 | 1219 | 3.85 | 2.41 | 0.63 | 1273 |
| 26 | 22 | 4.46 | 2.26 | 0.51 | 1166 | 4.31 | 2.18 | 0.51 | 1240 | 4.20 | 2.13 | 0.51 | 1273 | 4.03 | 2.04 | 0.51 | 1327 |
| 26 | 24 | 4.69 | 1.82 | 0.39 | 1219 | 4.52 | 1.75 | 0.39 | 1286 | 4.41 | 1.71 | 0.39 | 1327 | 4.27 | 1.65 | 0.39 | 1394 |
| 26 | 26 | 4.83 | 1.29 | 0.27 | 1286 | 4.69 | 1.25 | 0.27 | 1353 | 4.62 | 1.23 | 0.27 | 1394 | 4.48 | 1.20 | 0.27 | 1434 |
| 27 | 18 | 4.11 | 3.24 | 0.79 | 1072 | 3.94 | 3.10 | 0.79 | 1126 | 3.78 | 2.97 | 0.79 | 1179 | 3.64 | 2.86 | 0.79 | 1233 |
| 27 | 20 | 4.29 | 2.86 | 0.67 | 1126 | 4.11 | 2.74 | 0.67 | 1193 | 3.99 | 2.66 | 0.67 | 1219 | 3.85 | 2.57 | 0.67 | 1273 |
| 27 | 22 | 4.46 | 2.44 | 0.55 | 1166 | 4.31 | 2.35 | 0.55 | 1240 | 4.20 | 2.30 | 0.55 | 1273 | 4.03 | 2.20 | 0.55 | 1327 |
| 27 | 24 | 4.69 | 2.00 | 0.43 | 1219 | 4.52 | 1.93 | 0.43 | 1286 | 4.41 | 1.88 | 0.43 | 1327 | 4.27 | 1.82 | 0.43 | 1394 |
| 27 | 26 | 4.83 | 1.48 | 0.31 | 1286 | 4.69 | 1.44 | 0.31 | 1353 | 4.62 | 1.42 | 0.31 | 1394 | 4.48 | 1.38 | 0.31 | 1434 |
| 28 | 18 | 4.11 | 3.40 | 0.83 | 1072 | 3.94 | 3.26 | 0.83 | 1126 | 3.78 | 3.13 | 0.83 | 1179 | 3.64 | 3.01 | 0.83 | 1233 |
| 28 | 20 | 4.29 | 3.03 | 0.71 | 1126 | 4.11 | 2.91 | 0.71 | 1193 | 3.99 | 2.82 | 0.71 | 1219 | 3.85 | 2.72 | 0.71 | 1273 |
| 28 | 22 | 4.46 | 2.62 | 0.59 | 1166 | 4.31 | 2.53 | 0.59 | 1240 | 4.20 | 2.47 | 0.59 | 1273 | 4.03 | 2.36 | 0.59 | 1327 |
| 28 | 24 | 4.69 | 2.19 | 0.47 | 1219 | 4.52 | 2.11 | 0.47 | 1286 | 4.41 | 2.06 | 0.47 | 1327 | 4.27 | 1.99 | 0.47 | 1394 |
| 28 | 26 | 4.83 | 1.68 | 0.35 | 1286 | 4.69 | 1.63 | 0.35 | 1353 | 4.62 | 1.60 | 0.35 | 1394 | 4.48 | 1.55 | 0.35 | 1434 |
| 29 | 18 | 4.11 | 3.57 | 0.87 | 1072 | 3.94 | 3.41 | 0.87 | 1126 | 3.78 | 3.28 | 0.87 | 1179 | 3.64 | 3.16 | 0.87 | 1233 |
| 29 | 20 | 4.29 | 3.20 | 0.75 | 1126 | 4.11 | 3.07 | 0.75 | 1193 | 3.99 | 2.98 | 0.75 | 1219 | 3.85 | 2.88 | 0.75 | 1273 |
| 29 | 22 | 4.46 | 2.80 | 0.63 | 1166 | 4.31 | 2.70 | 0.63 | 1240 | 4.20 | 2.63 | 0.63 | 1273 | 4.03 | 2.52 | 0.63 | 1327 |
| 29 | 24 | 4.69 | 2.38 | 0.51 | 1219 | 4.52 | 2.29 | 0.51 | 1286 | 4.41 | 2.24 | 0.51 | 1327 | 4.27 | 2.16 | 0.51 | 1394 |
| 29 | 26 | 4.83 | 1.87 | 0.39 | 1286 | 4.69 | 1.82 | 0.39 | 1353 | 4.62 | 1.79 | 0.39 | 1394 | 4.48 | 1.73 | 0.39 | 1434 |
| 30 | 18 | 4.11 | 3.73 | 0.91 | 1072 | 3.94 | 3.57 | 0.91 | 1126 | 3.78 | 3.43 | 0.91 | 1179 | 3.64 | 3.30 | 0.91 | 1233 |
| 30 | 20 | 4.29 | 3.37 | 0.79 | 1126 | 4.11 | 3.24 | 0.79 | 1193 | 3.99 | 3.14 | 0.79 | 1219 | 3.85 | 3.03 | 0.79 | 1273 |
| 30 | 22 | 4.46 | 2.98 | 0.67 | 1166 | 4.31 | 2.87 | 0.67 | 1240 | 4.20 | 2.80 | 0.67 | 1273 | 4.03 | 2.68 | 0.67 | 1327 |
| 30 | 24 | 4.69 | 2.57 | 0.55 | 1219 | 4.52 | 2.47 | 0.55 | 1286 | 4.41 | 2.41 | 0.55 | 1327 | 4.27 | 2.34 | 0.55 | 1394 |
| 30 | 26 | 4.83 | 2.06 | 0.43 | 1286 | 4.69 | 2.00 | 0.43 | 1353 | 4.62 | 1.97 | 0.43 | 1394 | 4.48 | 1.91 | 0.43 | 1434 |
| 31 | 18 | 4.11 | 3.89 | 0.95 | 1072 | 3.94 | 3.73 | 0.95 | 1126 | 3.78 | 3.58 | 0.95 | 1179 | 3.64 | 3.45 | 0.95 | 1233 |
| 31 | 20 | 4.29 | 3.55 | 0.83 | 1126 | 4.11 | 3.40 | 0.83 | 1193 | 3.99 | 3.30 | 0.83 | 1219 | 3.85 | 3.18 | 0.83 | 1273 |
| 31 | 22 | 4.46 | 3.15 | 0.71 | 1166 | 4.31 | 3.04 | 0.71 | 1240 | 4.20 | 2.97 | 0.71 | 1273 | 4.03 | 2.85 | 0.71 | 1327 |
| 31 | 24 | 4.69 | 2.75 | 0.59 | 1219 | 4.52 | 2.65 | 0.59 | 1286 | 4.41 | 2.59 | 0.59 | 1327 | 4.27 | 2.51 | 0.59 | 1394 |
| 31 | 26 | 4.83 | 2.26 | 0.47 | 1286 | 4.69 | 2.19 | 0.47 | 1353 | 4.62 | 2.16 | 0.47 | 1394 | 4.48 | 2.09 | 0.47 | 1434 |
| 32 | 18 | 4.11 | 4.06 | 0.99 | 1072 | 3.94 | 3.89 | 0.99 | 1126 | 3.78 | 3.73 | 0.99 | 1179 | 3.64 | 3.59 | 0.99 | 1233 |
| 32 | 20 | 4.29 | 3.72 | 0.87 | 1126 | 4.11 | 3.57 | 0.87 | 1193 | 3.99 | 3.46 | 0.87 | 1219 | 3.85 | 3.34 | 0.87 | 1273 |
| 32 | 22 | 4.46 | 3.33 | 0.75 | 1166 | 4.31 | 3.22 | 0.75 | 1240 | 4.20 | 3.14 | 0.75 | 1273 | 4.03 | 3.01 | 0.75 | 1327 |
| 32 | 24 | 4.69 | 2.94 | 0.63 | 1219 | 4.52 | 2.83 | 0.63 | 1286 | 4.41 | 2.77 | 0.63 | 1327 | 4.27 | 2.68 | 0.63 | 1394 |
| 32 | 26 | 4.83 | 2.45 | 0.51 | 1286 | 4.69 | 2.38 | 0.51 | 1353 | 4.62 | 2.34 | 0.51 | 1394 | 4.48 | 2.27 | 0.51 | 1434 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1(Single) : MUX-A25WV -E1

CAPACITY : 3.5(kW) SHF : 0.73 INPUT : 1340(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.43 | 1.88 | 0.55 | 1313 | 3.15 | 1.72 | 0.55 | 1394 | 3.03 | 1.66 | 0.55 | 1420 |
| 21 | 20 | 3.61 | 1.54 | 0.43 | 1367 | 3.36 | 1.43 | 0.43 | 1434 | 3.24 | 1.38 | 0.43 | 1474 |
| 22 | 18 | 3.43 | 2.01 | 0.59 | 1313 | 3.15 | 1.85 | 0.59 | 1394 | 3.03 | 1.78 | 0.59 | 1420 |
| 22 | 20 | 3.61 | 1.68 | 0.47 | 1367 | 3.36 | 1.57 | 0.47 | 1434 | 3.24 | 1.51 | 0.47 | 1474 |
| 22 | 22 | 3.82 | 1.32 | 0.35 | 1420 | 3.57 | 1.24 | 0.35 | 1501 | 3.45 | 1.20 | 0.35 | 1528 |
| 23 | 18 | 3.43 | 2.15 | 0.63 | 1313 | 3.15 | 1.98 | 0.63 | 1394 | 3.03 | 1.90 | 0.63 | 1420 |
| 23 | 20 | 3.61 | 1.83 | 0.51 | 1367 | 3.36 | 1.70 | 0.51 | 1434 | 3.24 | 1.64 | 0.51 | 1474 |
| 23 | 22 | 3.82 | 1.48 | 0.39 | 1420 | 3.57 | 1.38 | 0.39 | 1501 | 3.45 | 1.33 | 0.39 | 1528 |
| 24 | 18 | 3.43 | 2.29 | 0.67 | 1313 | 3.15 | 2.10 | 0.67 | 1394 | 3.03 | 2.02 | 0.67 | 1420 |
| 24 | 20 | 3.61 | 1.97 | 0.55 | 1367 | 3.36 | 1.84 | 0.55 | 1434 | 3.24 | 1.77 | 0.55 | 1474 |
| 24 | 22 | 3.82 | 1.63 | 0.43 | 1420 | 3.57 | 1.52 | 0.43 | 1501 | 3.45 | 1.47 | 0.43 | 1528 |
| 24 | 24 | 4.03 | 1.24 | 0.31 | 1474 | 3.78 | 1.16 | 0.31 | 1541 | 3.68 | 1.13 | 0.31 | 1575 |
| 25 | 18 | 3.43 | 2.43 | 0.71 | 1313 | 3.15 | 2.23 | 0.71 | 1394 | 3.03 | 2.14 | 0.71 | 1420 |
| 25 | 20 | 3.61 | 2.12 | 0.59 | 1367 | 3.36 | 1.97 | 0.59 | 1434 | 3.24 | 1.90 | 0.59 | 1474 |
| 25 | 22 | 3.82 | 1.78 | 0.47 | 1420 | 3.57 | 1.67 | 0.47 | 1501 | 3.45 | 1.61 | 0.47 | 1528 |
| 25 | 24 | 4.03 | 1.40 | 0.35 | 1474 | 3.78 | 1.31 | 0.35 | 1541 | 3.68 | 1.28 | 0.35 | 1575 |
| 26 | 18 | 3.43 | 2.56 | 0.75 | 1313 | 3.15 | 2.35 | 0.75 | 1394 | 3.03 | 2.26 | 0.75 | 1420 |
| 26 | 20 | 3.61 | 2.26 | 0.63 | 1367 | 3.36 | 2.11 | 0.63 | 1434 | 3.24 | 2.03 | 0.63 | 1474 |
| 26 | 22 | 3.82 | 1.93 | 0.51 | 1420 | 3.57 | 1.81 | 0.51 | 1501 | 3.45 | 1.75 | 0.51 | 1528 |
| 26 | 24 | 4.03 | 1.56 | 0.39 | 1474 | 3.78 | 1.46 | 0.39 | 1541 | 3.68 | 1.42 | 0.39 | 1575 |
| 26 | 26 | 4.24 | 1.13 | 0.27 | 1528 | 3.99 | 1.07 | 0.27 | 1595 | 3.87 | 1.03 | 0.27 | 1628 |
| 27 | 18 | 3.43 | 2.70 | 0.79 | 1313 | 3.15 | 2.48 | 0.79 | 1394 | 3.03 | 2.38 | 0.79 | 1420 |
| 27 | 20 | 3.61 | 2.40 | 0.67 | 1367 | 3.36 | 2.24 | 0.67 | 1434 | 3.24 | 2.16 | 0.67 | 1474 |
| 27 | 22 | 3.82 | 2.09 | 0.55 | 1420 | 3.57 | 1.95 | 0.55 | 1501 | 3.45 | 1.89 | 0.55 | 1528 |
| 27 | 24 | 4.03 | 1.72 | 0.43 | 1474 | 3.78 | 1.61 | 0.43 | 1541 | 3.68 | 1.57 | 0.43 | 1575 |
| 27 | 26 | 4.24 | 1.30 | 0.31 | 1528 | 3.99 | 1.22 | 0.31 | 1595 | 3.87 | 1.19 | 0.31 | 1628 |
| 28 | 18 | 3.43 | 2.84 | 0.83 | 1313 | 3.15 | 2.61 | 0.83 | 1394 | 3.03 | 2.50 | 0.83 | 1420 |
| 28 | 20 | 3.61 | 2.55 | 0.71 | 1367 | 3.36 | 2.38 | 0.71 | 1434 | 3.24 | 2.29 | 0.71 | 1474 |
| 28 | 22 | 3.82 | 2.24 | 0.59 | 1420 | 3.57 | 2.10 | 0.59 | 1501 | 3.45 | 2.02 | 0.59 | 1528 |
| 28 | 24 | 4.03 | 1.88 | 0.47 | 1474 | 3.78 | 1.77 | 0.47 | 1541 | 3.68 | 1.72 | 0.47 | 1575 |
| 28 | 26 | 4.24 | 1.47 | 0.35 | 1528 | 3.99 | 1.38 | 0.35 | 1595 | 3.87 | 1.34 | 0.35 | 1628 |
| 29 | 18 | 3.43 | 2.97 | 0.87 | 1313 | 3.15 | 2.73 | 0.87 | 1394 | 3.03 | 2.62 | 0.87 | 1420 |
| 29 | 20 | 3.61 | 2.69 | 0.75 | 1367 | 3.36 | 2.51 | 0.75 | 1434 | 3.24 | 2.42 | 0.75 | 1474 |
| 29 | 22 | 3.82 | 2.39 | 0.63 | 1420 | 3.57 | 2.24 | 0.63 | 1501 | 3.45 | 2.16 | 0.63 | 1528 |
| 29 | 24 | 4.03 | 2.04 | 0.51 | 1474 | 3.78 | 1.92 | 0.51 | 1541 | 3.68 | 1.86 | 0.51 | 1575 |
| 29 | 26 | 4.24 | 1.64 | 0.39 | 1528 | 3.99 | 1.54 | 0.39 | 1595 | 3.87 | 1.50 | 0.39 | 1628 |
| 30 | 18 | 3.43 | 3.11 | 0.91 | 1313 | 3.15 | 2.86 | 0.91 | 1394 | 3.03 | 2.75 | 0.91 | 1420 |
| 30 | 20 | 3.61 | 2.84 | 0.79 | 1367 | 3.36 | 2.64 | 0.79 | 1434 | 3.24 | 2.55 | 0.79 | 1474 |
| 30 | 22 | 3.82 | 2.54 | 0.67 | 1420 | 3.57 | 2.38 | 0.67 | 1501 | 3.45 | 2.30 | 0.67 | 1528 |
| 30 | 24 | 4.03 | 2.20 | 0.55 | 1474 | 3.78 | 2.07 | 0.55 | 1541 | 3.68 | 2.01 | 0.55 | 1575 |
| 30 | 26 | 4.24 | 1.81 | 0.43 | 1528 | 3.99 | 1.70 | 0.43 | 1595 | 3.87 | 1.65 | 0.43 | 1628 |
| 31 | 18 | 3.43 | 3.25 | 0.95 | 1313 | 3.15 | 2.98 | 0.95 | 1394 | 3.03 | 2.87 | 0.95 | 1420 |
| 31 | 20 | 3.61 | 2.98 | 0.83 | 1367 | 3.36 | 2.78 | 0.83 | 1434 | 3.24 | 2.68 | 0.83 | 1474 |
| 31 | 22 | 3.82 | 2.70 | 0.71 | 1420 | 3.57 | 2.52 | 0.71 | 1501 | 3.45 | 2.44 | 0.71 | 1528 |
| 31 | 24 | 4.03 | 2.36 | 0.59 | 1474 | 3.78 | 2.22 | 0.59 | 1541 | 3.68 | 2.16 | 0.59 | 1575 |
| 31 | 26 | 4.24 | 1.98 | 0.47 | 1528 | 3.99 | 1.86 | 0.47 | 1595 | 3.87 | 1.81 | 0.47 | 1628 |
| 32 | 18 | 3.43 | 3.39 | 0.99 | 1313 | 3.15 | 3.11 | 0.99 | 1394 | 3.03 | 2.99 | 0.99 | 1420 |
| 32 | 20 | 3.61 | 3.13 | 0.87 | 1367 | 3.36 | 2.91 | 0.87 | 1434 | 3.24 | 2.81 | 0.87 | 1474 |
| 32 | 22 | 3.82 | 2.85 | 0.75 | 1420 | 3.57 | 2.67 | 0.75 | 1501 | 3.45 | 2.58 | 0.75 | 1528 |
| 32 | 24 | 4.03 | 2.52 | 0.63 | 1474 | 3.78 | 2.37 | 0.63 | 1541 | 3.68 | 2.30 | 0.63 | 1575 |
| 32 | 26 | 4.24 | 2.15 | 0.51 | 1528 | 3.99 | 2.02 | 0.51 | 1595 | 3.87 | 1.96 | 0.51 | 1628 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 (Single : Room C ) : MUX-A26WV -E1

CAPACITY : 2.75(kW) SHF :0.73 INPUT : 1050(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.23 | 1.76 | 0.55 | 840 | 3.09 | 1.69 | 0.55 | 882 | 2.97 | 1.62 | 0.55 | 924 | 2.86 | 1.56 | 0.55 | 966 |
| 21 | 20 | 3.37 | 1.43 | 0.43 | 882 | 3.23 | 1.37 | 0.43 | 935 | 3.14 | 1.33 | 0.43 | 956 | 3.03 | 1.29 | 0.43 | 998 |
| 22 | 18 | 3.23 | 1.89 | 0.59 | 840 | 3.09 | 1.81 | 0.59 | 882 | 2.97 | 1.74 | 0.59 | 924 | 2.86 | 1.67 | 0.59 | 966 |
| 22 | 20 | 3.37 | 1.57 | 0.47 | 882 | 3.23 | 1.50 | 0.47 | 935 | 3.14 | 1.46 | 0.47 | 956 | 3.03 | 1.41 | 0.47 | 998 |
| 22 | 22 | 3.51 | 1.21 | 0.35 | 914 | 3.38 | 1.17 | 0.35 | 971 | 3.30 | 1.14 | 0.35 | 998 | 3.16 | 1.09 | 0.35 | 1040 |
| 23 | 18 | 3.23 | 2.02 | 0.63 | 840 | 3.09 | 1.93 | 0.63 | 882 | 2.97 | 1.86 | 0.63 | 924 | 2.86 | 1.79 | 0.63 | 966 |
| 23 | 20 | 3.37 | 1.70 | 0.51 | 882 | 3.23 | 1.63 | 0.51 | 935 | 3.14 | 1.58 | 0.51 | 956 | 3.03 | 1.53 | 0.51 | 998 |
| 23 | 22 | 3.51 | 1.35 | 0.39 | 914 | 3.38 | 1.30 | 0.39 | 971 | 3.30 | 1.27 | 0.39 | 998 | 3.16 | 1.22 | 0.39 | 1040 |
| 24 | 18 | 3.23 | 2.15 | 0.67 | 840 | 3.09 | 2.06 | 0.67 | 882 | 2.97 | 1.98 | 0.67 | 924 | 2.86 | 1.90 | 0.67 | 966 |
| 24 | 20 | 3.37 | 1.84 | 0.55 | 882 | 3.23 | 1.76 | 0.55 | 935 | 3.14 | 1.71 | 0.55 | 956 | 3.03 | 1.65 | 0.55 | 998 |
| 24 | 22 | 3.51 | 1.49 | 0.43 | 914 | 3.38 | 1.44 | 0.43 | 971 | 3.30 | 1.40 | 0.43 | 998 | 3.16 | 1.34 | 0.43 | 1040 |
| 24 | 24 | 3.69 | 1.12 | 0.31 | 956 | 3.55 | 1.08 | 0.31 | 1008 | 3.47 | 1.06 | 0.31 | 1040 | 3.36 | 1.02 | 0.31 | 1092 |
| 25 | 18 | 3.23 | 2.28 | 0.71 | 840 | 3.09 | 2.18 | 0.71 | 882 | 2.97 | 2.09 | 0.71 | 924 | 2.86 | 2.02 | 0.71 | 966 |
| 25 | 20 | 3.37 | 1.97 | 0.59 | 882 | 3.23 | 1.89 | 0.59 | 935 | 3.14 | 1.83 | 0.59 | 956 | 3.03 | 1.77 | 0.59 | 998 |
| 25 | 22 | 3.51 | 1.63 | 0.47 | 914 | 3.38 | 1.57 | 0.47 | 971 | 3.30 | 1.53 | 0.47 | 998 | 3.16 | 1.47 | 0.47 | 1040 |
| 25 | 24 | 3.69 | 1.27 | 0.35 | 956 | 3.55 | 1.22 | 0.35 | 1008 | 3.47 | 1.20 | 0.35 | 1040 | 3.36 | 1.16 | 0.35 | 1092 |
| 26 | 18 | 3.23 | 2.41 | 0.75 | 840 | 3.09 | 2.30 | 0.75 | 882 | 2.97 | 2.21 | 0.75 | 924 | 2.86 | 2.13 | 0.75 | 966 |
| 26 | 20 | 3.37 | 2.11 | 0.63 | 882 | 3.23 | 2.02 | 0.63 | 935 | 3.14 | 1.96 | 0.63 | 956 | 3.03 | 1.89 | 0.63 | 998 |
| 26 | 22 | 3.51 | 1.77 | 0.51 | 914 | 3.38 | 1.71 | 0.51 | 971 | 3.30 | 1.67 | 0.51 | 998 | 3.16 | 1.60 | 0.51 | 1040 |
| 26 | 24 | 3.69 | 1.42 | 0.39 | 956 | 3.55 | 1.37 | 0.39 | 1008 | 3.47 | 1.33 | 0.39 | 1040 | 3.36 | 1.29 | 0.39 | 1092 |
| 26 | 26 | 3.80 | 1.01 | 0.27 | 1008 | 3.69 | 0.98 | 0.27 | 1061 | 3.63 | 0.96 | 0.27 | 1092 | 3.52 | 0.93 | 0.27 | 1124 |
| 27 | 18 | 3.23 | 2.54 | 0.79 | 840 | 3.09 | 2.43 | 0.79 | 882 | 2.97 | 2.33 | 0.79 | 924 | 2.86 | 2.25 | 0.79 | 966 |
| 27 | 20 | 3.37 | 2.24 | 0.67 | 882 | 3.23 | 2.15 | 0.67 | 935 | 3.14 | 2.08 | 0.67 | 956 | 3.03 | 2.01 | 0.67 | 998 |
| 27 | 22 | 3.51 | 1.91 | 0.55 | 914 | 3.38 | 1.84 | 0.55 | 971 | 3.30 | 1.80 | 0.55 | 998 | 3.16 | 1.72 | 0.55 | 1040 |
| 27 | 24 | 3.69 | 1.57 | 0.43 | 956 | 3.55 | 1.51 | 0.43 | 1008 | 3.47 | 1.47 | 0.43 | 1040 | 3.36 | 1.43 | 0.43 | 1092 |
| 27 | 26 | 3.80 | 1.16 | 0.31 | 1008 | 3.69 | 1.12 | 0.31 | 1061 | 3.63 | 1.11 | 0.31 | 1092 | 3.52 | 1.07 | 0.31 | 1124 |
| 28 | 18 | 3.23 | 2.67 | 0.83 | 840 | 3.09 | 2.55 | 0.83 | 882 | 2.97 | 2.45 | 0.83 | 924 | 2.86 | 2.36 | 0.83 | 966 |
| 28 | 20 | 3.37 | 2.37 | 0.71 | 882 | 3.23 | 2.28 | 0.71 | 935 | 3.14 | 2.21 | 0.71 | 956 | 3.03 | 2.13 | 0.71 | 998 |
| 28 | 22 | 3.51 | 2.05 | 0.59 | 914 | 3.38 | 1.98 | 0.59 | 971 | 3.30 | 1.93 | 0.59 | 998 | 3.16 | 1.85 | 0.59 | 1040 |
| 28 | 24 | 3.69 | 1.71 | 0.47 | 956 | 3.55 | 1.65 | 0.47 | 1008 | 3.47 | 1.61 | 0.47 | 1040 | 3.36 | 1.56 | 0.47 | 1092 |
| 28 | 26 | 3.80 | 1.31 | 0.35 | 1008 | 3.69 | 1.27 | 0.35 | 1061 | 3.63 | 1.25 | 0.35 | 1092 | 3.52 | 1.21 | 0.35 | 1124 |
| 29 | 18 | 3.23 | 2.80 | 0.87 | 840 | 3.09 | 2.68 | 0.87 | 882 | 2.97 | 2.57 | 0.87 | 924 | 2.86 | 2.47 | 0.87 | 966 |
| 29 | 20 | 3.37 | 2.51 | 0.75 | 882 | 3.23 | 2.41 | 0.75 | 935 | 3.14 | 2.34 | 0.75 | 956 | 3.03 | 2.25 | 0.75 | 998 |
| 29 | 22 | 3.51 | 2.19 | 0.63 | 914 | 3.38 | 2.11 | 0.63 | 971 | 3.30 | 2.06 | 0.63 | 998 | 3.16 | 1.98 | 0.63 | 1040 |
| 29 | 24 | 3.69 | 1.86 | 0.51 | 956 | 3.55 | 1.79 | 0.51 | 1008 | 3.47 | 1.75 | 0.51 | 1040 | 3.36 | 1.69 | 0.51 | 1092 |
| 29 | 26 | 3.80 | 1.46 | 0.39 | 1008 | 3.69 | 1.42 | 0.39 | 1061 | 3.63 | 1.40 | 0.39 | 1092 | 3.52 | 1.36 | 0.39 | 1124 |
| 30 | 18 | 3.23 | 2.92 | 0.91 | 840 | 3.09 | 2.80 | 0.91 | 882 | 2.97 | 2.69 | 0.91 | 924 | 2.86 | 2.59 | 0.91 | 966 |
| 30 | 20 | 3.37 | 2.64 | 0.79 | 882 | 3.23 | 2.54 | 0.79 | 935 | 3.14 | 2.46 | 0.79 | 956 | 3.03 | 2.37 | 0.79 | 998 |
| 30 | 22 | 3.51 | 2.33 | 0.67 | 914 | 3.38 | 2.25 | 0.67 | 971 | 3.30 | 2.19 | 0.67 | 998 | 3.16 | 2.10 | 0.67 | 1040 |
| 30 | 24 | 3.69 | 2.01 | 0.55 | 956 | 3.55 | 1.93 | 0.55 | 1008 | 3.47 | 1.89 | 0.55 | 1040 | 3.36 | 1.83 | 0.55 | 1092 |
| 30 | 26 | 3.80 | 1.61 | 0.43 | 1008 | 3.69 | 1.57 | 0.43 | 1061 | 3.63 | 1.54 | 0.43 | 1092 | 3.52 | 1.50 | 0.43 | 1124 |
| 31 | 18 | 3.23 | 3.05 | 0.95 | 840 | 3.09 | 2.92 | 0.95 | 882 | 2.97 | 2.81 | 0.95 | 924 | 2.86 | 2.70 | 0.95 | 966 |
| 31 | 20 | 3.37 | 2.78 | 0.83 | 882 | 3.23 | 2.67 | 0.83 | 935 | 3.14 | 2.59 | 0.83 | 956 | 3.03 | 2.50 | 0.83 | 998 |
| 31 | 22 | 3.51 | 2.47 | 0.71 | 914 | 3.38 | 2.38 | 0.71 | 971 | 3.30 | 2.33 | 0.71 | 998 | 3.16 | 2.23 | 0.71 | 1040 |
| 31 | 24 | 3.69 | 2.16 | 0.59 | 956 | 3.55 | 2.08 | 0.59 | 1008 | 3.47 | 2.03 | 0.59 | 1040 | 3.36 | 1.96 | 0.59 | 1092 |
| 31 | 26 | 3.80 | 1.76 | 0.47 | 1008 | 3.69 | 1.71 | 0.47 | 1061 | 3.63 | 1.69 | 0.47 | 1092 | 3.52 | 1.64 | 0.47 | 1124 |
| 32 | 18 | 3.23 | 3.18 | 0.99 | 840 | 3.09 | 3.05 | 0.99 | 882 | 2.97 | 2.93 | 0.99 | 924 | 2.86 | 2.82 | 0.99 | 966 |
| 32 | 20 | 3.37 | 2.91 | 0.87 | 882 | 3.23 | 2.80 | 0.87 | 935 | 3.14 | 2.71 | 0.87 | 956 | 3.03 | 2.62 | 0.87 | 998 |
| 32 | 22 | 3.51 | 2.61 | 0.75 | 914 | 3.38 | 2.52 | 0.75 | 971 | 3.30 | 2.46 | 0.75 | 998 | 3.16 | 2.36 | 0.75 | 1040 |
| 32 | 24 | 3.69 | 2.30 | 0.63 | 956 | 3.55 | 2.22 | 0.63 | 1008 | 3.47 | 2.17 | 0.63 | 1040 | 3.36 | 2.10 | 0.63 | 1092 |
| 32 | 26 | 3.80 | 1.92 | 0.51 | 1008 | 3.69 | 1.86 | 0.51 | 1061 | 3.63 | 1.83 | 0.51 | 1092 | 3.52 | 1.78 | 0.51 | 1124 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A09WV -E1 (Single : Room C ) : MUX-A26WV -E1

CAPACITY : 2.75(kW) SHF : 0.73 INPUT : 1050(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.70 | 1.47 | 0.55 | 1029 | 2.48 | 1.35 | 0.55 | 1092 | 2.38 | 1.30 | 0.55 | 1113 |
| 21 | 20 | 2.83 | 1.20 | 0.43 | 1071 | 2.64 | 1.12 | 0.43 | 1124 | 2.54 | 1.08 | 0.43 | 1155 |
| 22 | 18 | 2.70 | 1.58 | 0.59 | 1029 | 2.48 | 1.45 | 0.59 | 1092 | 2.38 | 1.39 | 0.59 | 1113 |
| 22 | 20 | 2.83 | 1.32 | 0.47 | 1071 | 2.64 | 1.23 | 0.47 | 1124 | 2.54 | 1.18 | 0.47 | 1155 |
| 22 | 22 | 3.00 | 1.03 | 0.35 | 1113 | 2.81 | 0.97 | 0.35 | 1176 | 2.71 | 0.93 | 0.35 | 1197 |
| 23 | 18 | 2.70 | 1.68 | 0.63 | 1029 | 2.48 | 1.55 | 0.63 | 1092 | 2.38 | 1.49 | 0.63 | 1113 |
| 23 | 20 | 2.83 | 1.43 | 0.51 | 1071 | 2.64 | 1.33 | 0.51 | 1124 | 2.54 | 1.28 | 0.51 | 1155 |
| 23 | 22 | 3.00 | 1.15 | 0.39 | 1113 | 2.81 | 1.08 | 0.39 | 1176 | 2.71 | 1.04 | 0.39 | 1197 |
| 24 | 18 | 2.70 | 1.79 | 0.67 | 1029 | 2.48 | 1.65 | 0.67 | 1092 | 2.38 | 1.58 | 0.67 | 1113 |
| 24 | 20 | 2.83 | 1.54 | 0.55 | 1071 | 2.64 | 1.44 | 0.55 | 1124 | 2.54 | 1.39 | 0.55 | 1155 |
| 24 | 22 | 3.00 | 1.27 | 0.43 | 1113 | 2.81 | 1.19 | 0.43 | 1176 | 2.71 | 1.15 | 0.43 | 1197 |
| 24 | 24 | 3.16 | 0.96 | 0.31 | 1155 | 2.97 | 0.91 | 0.31 | 1208 | 2.89 | 0.88 | 0.31 | 1234 |
| 25 | 18 | 2.70 | 1.90 | 0.71 | 1029 | 2.48 | 1.74 | 0.71 | 1092 | 2.38 | 1.68 | 0.71 | 1113 |
| 25 | 20 | 2.83 | 1.66 | 0.59 | 1071 | 2.64 | 1.54 | 0.59 | 1124 | 2.54 | 1.49 | 0.59 | 1155 |
| 25 | 22 | 3.00 | 1.39 | 0.47 | 1113 | 2.81 | 1.30 | 0.47 | 1176 | 2.71 | 1.26 | 0.47 | 1197 |
| 25 | 24 | 3.16 | 1.09 | 0.35 | 1155 | 2.97 | 1.02 | 0.35 | 1208 | 2.89 | 1.00 | 0.35 | 1234 |
| 26 | 18 | 2.70 | 2.01 | 0.75 | 1029 | 2.48 | 1.84 | 0.75 | 1092 | 2.38 | 1.77 | 0.75 | 1113 |
| 26 | 20 | 2.83 | 1.77 | 0.63 | 1071 | 2.64 | 1.65 | 0.63 | 1124 | 2.54 | 1.59 | 0.63 | 1155 |
| 26 | 22 | 3.00 | 1.51 | 0.51 | 1113 | 2.81 | 1.42 | 0.51 | 1176 | 2.71 | 1.37 | 0.51 | 1197 |
| 26 | 24 | 3.16 | 1.22 | 0.39 | 1155 | 2.97 | 1.14 | 0.39 | 1208 | 2.89 | 1.11 | 0.39 | 1234 |
| 26 | 26 | 3.33 | 0.88 | 0.27 | 1197 | 3.14 | 0.83 | 0.27 | 1250 | 3.04 | 0.81 | 0.27 | 1276 |
| 27 | 18 | 2.70 | 2.12 | 0.79 | 1029 | 2.48 | 1.94 | 0.79 | 1092 | 2.38 | 1.87 | 0.79 | 1113 |
| 27 | 20 | 2.83 | 1.88 | 0.67 | 1071 | 2.64 | 1.76 | 0.67 | 1124 | 2.54 | 1.69 | 0.67 | 1155 |
| 27 | 22 | 3.00 | 1.63 | 0.55 | 1113 | 2.81 | 1.53 | 0.55 | 1176 | 2.71 | 1.48 | 0.55 | 1197 |
| 27 | 24 | 3.16 | 1.34 | 0.43 | 1155 | 2.97 | 1.26 | 0.43 | 1208 | 2.89 | 1.23 | 0.43 | 1234 |
| 27 | 26 | 3.33 | 1.01 | 0.31 | 1197 | 3.14 | 0.96 | 0.31 | 1250 | 3.04 | 0.93 | 0.31 | 1276 |
| 28 | 18 | 2.70 | 2.22 | 0.83 | 1029 | 2.48 | 2.04 | 0.83 | 1092 | 2.38 | 1.96 | 0.83 | 1113 |
| 28 | 20 | 2.83 | 2.00 | 0.71 | 1071 | 2.64 | 1.86 | 0.71 | 1124 | 2.54 | 1.79 | 0.71 | 1155 |
| 28 | 22 | 3.00 | 1.75 | 0.59 | 1113 | 2.81 | 1.64 | 0.59 | 1176 | 2.71 | 1.58 | 0.59 | 1197 |
| 28 | 24 | 3.16 | 1.47 | 0.47 | 1155 | 2.97 | 1.38 | 0.47 | 1208 | 2.89 | 1.34 | 0.47 | 1234 |
| 28 | 26 | 3.33 | 1.15 | 0.35 | 1197 | 3.14 | 1.08 | 0.35 | 1250 | 3.04 | 1.05 | 0.35 | 1276 |
| 29 | 18 | 2.70 | 2.33 | 0.87 | 1029 | 2.48 | 2.14 | 0.87 | 1092 | 2.38 | 2.06 | 0.87 | 1113 |
| 29 | 20 | 2.83 | 2.11 | 0.75 | 1071 | 2.64 | 1.97 | 0.75 | 1124 | 2.54 | 1.90 | 0.75 | 1155 |
| 29 | 22 | 3.00 | 1.87 | 0.63 | 1113 | 2.81 | 1.75 | 0.63 | 1176 | 2.71 | 1.69 | 0.63 | 1197 |
| 29 | 24 | 3.16 | 1.60 | 0.51 | 1155 | 2.97 | 1.50 | 0.51 | 1208 | 2.89 | 1.46 | 0.51 | 1234 |
| 29 | 26 | 3.33 | 1.28 | 0.39 | 1197 | 3.14 | 1.21 | 0.39 | 1250 | 3.04 | 1.17 | 0.39 | 1276 |
| 30 | 18 | 2.70 | 2.44 | 0.91 | 1029 | 2.48 | 2.24 | 0.91 | 1092 | 2.38 | 2.15 | 0.91 | 1113 |
| 30 | 20 | 2.83 | 2.22 | 0.79 | 1071 | 2.64 | 2.07 | 0.79 | 1124 | 2.54 | 2.00 | 0.79 | 1155 |
| 30 | 22 | 3.00 | 1.99 | 0.67 | 1113 | 2.81 | 1.87 | 0.67 | 1176 | 2.71 | 1.80 | 0.67 | 1197 |
| 30 | 24 | 3.16 | 1.72 | 0.55 | 1155 | 2.97 | 1.62 | 0.55 | 1208 | 2.89 | 1.57 | 0.55 | 1234 |
| 30 | 26 | 3.33 | 1.41 | 0.43 | 1197 | 3.14 | 1.33 | 0.43 | 1250 | 3.04 | 1.29 | 0.43 | 1276 |
| 31 | 18 | 2.70 | 2.55 | 0.95 | 1029 | 2.48 | 2.34 | 0.95 | 1092 | 2.38 | 2.25 | 0.95 | 1113 |
| 31 | 20 | 2.83 | 2.34 | 0.83 | 1071 | 2.64 | 2.18 | 0.83 | 1124 | 2.54 | 2.10 | 0.83 | 1155 |
| 31 | 22 | 3.00 | 2.11 | 0.71 | 1113 | 2.81 | 1.98 | 0.71 | 1176 | 2.71 | 1.91 | 0.71 | 1197 |
| 31 | 24 | 3.16 | 1.85 | 0.59 | 1155 | 2.97 | 1.74 | 0.59 | 1208 | 2.89 | 1.69 | 0.59 | 1234 |
| 31 | 26 | 3.33 | 1.55 | 0.47 | 1197 | 3.14 | 1.46 | 0.47 | 1250 | 3.04 | 1.41 | 0.47 | 1276 |
| 32 | 18 | 2.70 | 2.65 | 0.99 | 1029 | 2.48 | 2.44 | 0.99 | 1092 | 2.38 | 2.34 | 0.99 | 1113 |
| 32 | 20 | 2.83 | 2.45 | 0.87 | 1071 | 2.64 | 2.28 | 0.87 | 1124 | 2.54 | 2.20 | 0.87 | 1155 |
| 32 | 22 | 3.00 | 2.23 | 0.75 | 1113 | 2.81 | 2.09 | 0.75 | 1176 | 2.71 | 2.02 | 0.75 | 1197 |
| 32 | 24 | 3.16 | 1.98 | 0.63 | 1155 | 2.97 | 1.86 | 0.63 | 1208 | 2.89 | 1.80 | 0.63 | 1234 |
| 32 | 26 | 3.33 | 1.68 | 0.51 | 1197 | 3.14 | 1.58 | 0.51 | 1250 | 3.04 | 1.53 | 0.51 | 1276 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 (Single : Room A) : MUX-A26WV -E1

CAPACITY : 3.4(kW) SHF : 0.77 INPUT : 1220(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 4.00 | 2.37 | 0.59 | 976 | 3.83 | 2.27 | 0.59 | 1025 | 3.67 | 2.18 | 0.59 | 1074 | 3.54 | 2.10 | 0.59 | 1122 |
| 21 | 20 | 4.17 | 1.97 | 0.47 | 1025 | 4.00 | 1.89 | 0.47 | 1086 | 3.88 | 1.83 | 0.47 | 1110 | 3.74 | 1.77 | 0.47 | 1159 |
| 22 | 18 | 4.00 | 2.53 | 0.63 | 976 | 3.83 | 2.42 | 0.63 | 1025 | 3.67 | 2.32 | 0.63 | 1074 | 3.54 | 2.24 | 0.63 | 1122 |
| 22 | 20 | 4.17 | 2.14 | 0.51 | 1025 | 4.00 | 2.05 | 0.51 | 1086 | 3.88 | 1.99 | 0.51 | 1110 | 3.74 | 1.92 | 0.51 | 1159 |
| 22 | 22 | 4.34 | 1.70 | 0.39 | 1061 | 4.18 | 1.64 | 0.39 | 1129 | 4.08 | 1.60 | 0.39 | 1159 | 3.91 | 1.54 | 0.39 | 1208 |
| 23 | 18 | 4.00 | 2.69 | 0.67 | 976 | 3.83 | 2.57 | 0.67 | 1025 | 3.67 | 2.47 | 0.67 | 1074 | 3.54 | 2.38 | 0.67 | 1122 |
| 23 | 20 | 4.17 | 2.30 | 0.55 | 1025 | 4.00 | 2.21 | 0.55 | 1086 | 3.88 | 2.14 | 0.55 | 1110 | 3.74 | 2.07 | 0.55 | 1159 |
| 23 | 22 | 4.34 | 1.88 | 0.43 | 1061 | 4.18 | 1.81 | 0.43 | 1129 | 4.08 | 1.77 | 0.43 | 1159 | 3.91 | 1.69 | 0.43 | 1208 |
| 24 | 18 | 4.00 | 2.85 | 0.71 | 976 | 3.83 | 2.73 | 0.71 | 1025 | 3.67 | 2.62 | 0.71 | 1074 | 3.54 | 2.52 | 0.71 | 1122 |
| 24 | 20 | 4.17 | 2.47 | 0.59 | 1025 | 4.00 | 2.37 | 0.59 | 1086 | 3.88 | 2.30 | 0.59 | 1110 | 3.74 | 2.22 | 0.59 | 1159 |
| 24 | 22 | 4.34 | 2.05 | 0.47 | 1061 | 4.18 | 1.98 | 0.47 | 1129 | 4.08 | 1.93 | 0.47 | 1159 | 3.91 | 1.85 | 0.47 | 1208 |
| 24 | 24 | 4.56 | 1.61 | 0.35 | 1110 | 4.39 | 1.55 | 0.35 | 1171 | 4.28 | 1.51 | 0.35 | 1208 | 4.15 | 1.46 | 0.35 | 1269 |
| 25 | 18 | 4.00 | 3.01 | 0.75 | 976 | 3.83 | 2.88 | 0.75 | 1025 | 3.67 | 2.77 | 0.75 | 1074 | 3.54 | 2.66 | 0.75 | 1122 |
| 25 | 20 | 4.17 | 2.64 | 0.63 | 1025 | 4.00 | 2.53 | 0.63 | 1086 | 3.88 | 2.45 | 0.63 | 1110 | 3.74 | 2.37 | 0.63 | 1159 |
| 25 | 22 | 4.34 | 2.22 | 0.51 | 1061 | 4.18 | 2.15 | 0.51 | 1129 | 4.08 | 2.09 | 0.51 | 1159 | 3.91 | 2.01 | 0.51 | 1208 |
| 25 | 24 | 4.56 | 1.79 | 0.39 | 1110 | 4.39 | 1.72 | 0.39 | 1171 | 4.28 | 1.68 | 0.39 | 1208 | 4.15 | 1.63 | 0.39 | 1269 |
| 26 | 18 | 4.00 | 3.17 | 0.79 | 976 | 3.83 | 3.03 | 0.79 | 1025 | 3.67 | 2.91 | 0.79 | 1074 | 3.54 | 2.80 | 0.79 | 1122 |
| 26 | 20 | 4.17 | 2.80 | 0.67 | 1025 | 4.00 | 2.69 | 0.67 | 1086 | 3.88 | 2.61 | 0.67 | 1110 | 3.74 | 2.52 | 0.67 | 1159 |
| 26 | 22 | 4.34 | 2.40 | 0.55 | 1061 | 4.18 | 2.31 | 0.55 | 1129 | 4.08 | 2.26 | 0.55 | 1159 | 3.91 | 2.16 | 0.55 | 1208 |
| 26 | 24 | 4.56 | 1.97 | 0.43 | 1110 | 4.39 | 1.90 | 0.43 | 1171 | 4.28 | 1.85 | 0.43 | 1208 | 4.15 | 1.80 | 0.43 | 1269 |
| 26 | 26 | 4.69 | 1.47 | 0.31 | 1171 | 4.56 | 1.43 | 0.31 | 1232 | 4.49 | 1.40 | 0.31 | 1269 | 4.35 | 1.36 | 0.31 | 1305 |
| 27 | 18 | 4.00 | 3.33 | 0.83 | 976 | 3.83 | 3.19 | 0.83 | 1025 | 3.67 | 3.06 | 0.83 | 1074 | 3.54 | 2.95 | 0.83 | 1122 |
| 27 | 20 | 4.17 | 2.97 | 0.71 | 1025 | 4.00 | 2.85 | 0.71 | 1086 | 3.88 | 2.76 | 0.71 | 1110 | 3.74 | 2.67 | 0.71 | 1159 |
| 27 | 22 | 4.34 | 2.57 | 0.59 | 1061 | 4.18 | 2.48 | 0.59 | 1129 | 4.08 | 2.42 | 0.59 | 1159 | 3.91 | 2.32 | 0.59 | 1208 |
| 27 | 24 | 4.56 | 2.15 | 0.47 | 1110 | 4.39 | 2.07 | 0.47 | 1171 | 4.28 | 2.03 | 0.47 | 1208 | 4.15 | 1.96 | 0.47 | 1269 |
| 27 | 26 | 4.69 | 1.66 | 0.35 | 1171 | 4.56 | 1.61 | 0.35 | 1232 | 4.49 | 1.58 | 0.35 | 1269 | 4.35 | 1.54 | 0.35 | 1305 |
| 28 | 18 | 4.00 | 3.49 | 0.87 | 976 | 3.83 | 3.34 | 0.87 | 1025 | 3.67 | 3.21 | 0.87 | 1074 | 3.54 | 3.09 | 0.87 | 1122 |
| 28 | 20 | 4.17 | 3.14 | 0.75 | 1025 | 4.00 | 3.01 | 0.75 | 1086 | 3.88 | 2.92 | 0.75 | 1110 | 3.74 | 2.82 | 0.75 | 1159 |
| 28 | 22 | 4.34 | 2.74 | 0.63 | 1061 | 4.18 | 2.65 | 0.63 | 1129 | 4.08 | 2.58 | 0.63 | 1159 | 3.91 | 2.48 | 0.63 | 1208 |
| 28 | 24 | 4.56 | 2.34 | 0.51 | 1110 | 4.39 | 2.25 | 0.51 | 1171 | 4.28 | 2.20 | 0.51 | 1208 | 4.15 | 2.13 | 0.51 | 1269 |
| 28 | 26 | 4.69 | 1.84 | 0.39 | 1171 | 4.56 | 1.79 | 0.39 | 1232 | 4.49 | 1.76 | 0.39 | 1269 | 4.35 | 1.71 | 0.39 | 1305 |
| 29 | 18 | 4.00 | 3.65 | 0.91 | 976 | 3.83 | 3.49 | 0.91 | 1025 | 3.67 | 3.35 | 0.91 | 1074 | 3.54 | 3.23 | 0.91 | 1122 |
| 29 | 20 | 4.17 | 3.30 | 0.79 | 1025 | 4.00 | 3.17 | 0.79 | 1086 | 3.88 | 3.07 | 0.79 | 1110 | 3.74 | 2.97 | 0.79 | 1159 |
| 29 | 22 | 4.34 | 2.92 | 0.67 | 1061 | 4.18 | 2.81 | 0.67 | 1129 | 4.08 | 2.75 | 0.67 | 1159 | 3.91 | 2.63 | 0.67 | 1208 |
| 29 | 24 | 4.56 | 2.52 | 0.55 | 1110 | 4.39 | 2.43 | 0.55 | 1171 | 4.28 | 2.37 | 0.55 | 1208 | 4.15 | 2.29 | 0.55 | 1269 |
| 29 | 26 | 4.69 | 2.03 | 0.43 | 1171 | 4.56 | 1.97 | 0.43 | 1232 | 4.49 | 1.94 | 0.43 | 1269 | 4.35 | 1.88 | 0.43 | 1305 |
| 30 | 18 | 4.00 | 3.81 | 0.95 | 976 | 3.83 | 3.65 | 0.95 | 1025 | 3.67 | 3.50 | 0.95 | 1074 | 3.54 | 3.37 | 0.95 | 1122 |
| 30 | 20 | 4.17 | 3.47 | 0.83 | 1025 | 4.00 | 3.33 | 0.83 | 1086 | 3.88 | 3.23 | 0.83 | 1110 | 3.74 | 3.12 | 0.83 | 1159 |
| 30 | 22 | 4.34 | 3.09 | 0.71 | 1061 | 4.18 | 2.98 | 0.71 | 1129 | 4.08 | 2.91 | 0.71 | 1159 | 3.91 | 2.79 | 0.71 | 1208 |
| 30 | 24 | 4.56 | 2.70 | 0.59 | 1110 | 4.39 | 2.60 | 0.59 | 1171 | 4.28 | 2.54 | 0.59 | 1208 | 4.15 | 2.46 | 0.59 | 1269 |
| 30 | 26 | 4.69 | 2.22 | 0.47 | 1171 | 4.56 | 2.15 | 0.47 | 1232 | 4.49 | 2.12 | 0.47 | 1269 | 4.35 | 2.06 | 0.47 | 1305 |
| 31 | 18 | 4.00 | 3.97 | 0.99 | 976 | 3.83 | 3.80 | 0.99 | 1025 | 3.67 | 3.65 | 0.99 | 1074 | 3.54 | 3.51 | 0.99 | 1122 |
| 31 | 20 | 4.17 | 3.64 | 0.87 | 1025 | 4.00 | 3.49 | 0.87 | 1086 | 3.88 | 3.38 | 0.87 | 1110 | 3.74 | 3.27 | 0.87 | 1159 |
| 31 | 22 | 4.34 | 3.26 | 0.75 | 1061 | 4.18 | 3.15 | 0.75 | 1129 | 4.08 | 3.07 | 0.75 | 1159 | 3.91 | 2.94 | 0.75 | 1208 |
| 31 | 24 | 4.56 | 2.88 | 0.63 | 1110 | 4.39 | 2.78 | 0.63 | 1171 | 4.28 | 2.71 | 0.63 | 1208 | 4.15 | 2.63 | 0.63 | 1269 |
| 31 | 26 | 4.69 | 2.41 | 0.51 | 1171 | 4.56 | 2.34 | 0.51 | 1232 | 4.49 | 2.30 | 0.51 | 1269 | 4.35 | 2.23 | 0.51 | 1305 |
| 32 | 18 | 4.00 | 4.13 | 1.03 | 976 | 3.83 | 3.95 | 1.03 | 1025 | 3.67 | 3.79 | 1.03 | 1074 | 3.54 | 3.65 | 1.03 | 1122 |
| 32 | 20 | 4.17 | 3.80 | 0.91 | 1025 | 4.00 | 3.65 | 0.91 | 1086 | 3.88 | 3.54 | 0.91 | 1110 | 3.74 | 3.41 | 0.91 | 1159 |
| 32 | 22 | 4.34 | 3.44 | 0.79 | 1061 | 4.18 | 3.32 | 0.79 | 1129 | 4.08 | 3.24 | 0.79 | 1159 | 3.91 | 3.10 | 0.79 | 1208 |
| 32 | 24 | 4.56 | 3.07 | 0.67 | 1110 | 4.39 | 2.95 | 0.67 | 1171 | 4.28 | 2.88 | 0.67 | 1208 | 4.15 | 2.79 | 0.67 | 1269 |
| 32 | 26 | 4.69 | 2.59 | 0.55 | 1171 | 4.56 | 2.52 | 0.55 | 1232 | 4.49 | 2.48 | 0.55 | 1269 | 4.35 | 2.41 | 0.55 | 1305 |

**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

**PERFORMANCE DATA**
**COOL operation (230V)**

## MSC-A12WV -E1 (Single : Room A) : MUX-A26WV -E1

CAPACITY : 3.4(kW) SHF : 0.77 INPUT : 1220(W)

| | | OUTDOOR DB(℃) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDOOR DB(℃) | INDOOR WB(℃) | 35 | | | | 40 | | | | 43 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.33 | 1.98 | 0.59 | 1196 | 3.06 | 1.81 | 0.59 | 1269 | 2.94 | 1.74 | 0.59 | 1293 |
| 21 | 20 | 3.50 | 1.66 | 0.47 | 1244 | 3.26 | 1.54 | 0.47 | 1305 | 3.15 | 1.49 | 0.47 | 1342 |
| 22 | 18 | 3.33 | 2.11 | 0.63 | 1196 | 3.06 | 1.94 | 0.63 | 1269 | 2.94 | 1.86 | 0.63 | 1293 |
| 22 | 20 | 3.50 | 1.80 | 0.51 | 1244 | 3.26 | 1.67 | 0.51 | 1305 | 3.15 | 1.61 | 0.51 | 1342 |
| 22 | 22 | 3.71 | 1.46 | 0.39 | 1293 | 3.47 | 1.36 | 0.39 | 1366 | 3.35 | 1.32 | 0.39 | 1391 |
| 23 | 18 | 3.33 | 2.24 | 0.67 | 1196 | 3.06 | 2.06 | 0.67 | 1269 | 2.94 | 1.98 | 0.67 | 1293 |
| 23 | 20 | 3.50 | 1.94 | 0.55 | 1244 | 3.26 | 1.80 | 0.55 | 1305 | 3.15 | 1.74 | 0.55 | 1342 |
| 23 | 22 | 3.71 | 1.60 | 0.43 | 1293 | 3.47 | 1.50 | 0.43 | 1366 | 3.35 | 1.45 | 0.43 | 1391 |
| 24 | 18 | 3.33 | 2.38 | 0.71 | 1196 | 3.06 | 2.18 | 0.71 | 1269 | 2.94 | 2.10 | 0.71 | 1293 |
| 24 | 20 | 3.50 | 2.08 | 0.59 | 1244 | 3.26 | 1.94 | 0.59 | 1305 | 3.15 | 1.86 | 0.59 | 1342 |
| 24 | 22 | 3.71 | 1.75 | 0.47 | 1293 | 3.47 | 1.64 | 0.47 | 1366 | 3.35 | 1.58 | 0.47 | 1391 |
| 24 | 24 | 3.91 | 1.38 | 0.35 | 1342 | 3.67 | 1.30 | 0.35 | 1403 | 3.57 | 1.26 | 0.35 | 1434 |
| 25 | 18 | 3.33 | 2.51 | 0.75 | 1196 | 3.06 | 2.30 | 0.75 | 1269 | 2.94 | 2.21 | 0.75 | 1293 |
| 25 | 20 | 3.50 | 2.22 | 0.63 | 1244 | 3.26 | 2.07 | 0.63 | 1305 | 3.15 | 1.99 | 0.63 | 1342 |
| 25 | 22 | 3.71 | 1.90 | 0.51 | 1293 | 3.47 | 1.78 | 0.51 | 1366 | 3.35 | 1.72 | 0.51 | 1391 |
| 25 | 24 | 3.91 | 1.54 | 0.39 | 1342 | 3.67 | 1.44 | 0.39 | 1403 | 3.57 | 1.40 | 0.39 | 1434 |
| 26 | 18 | 3.33 | 2.64 | 0.79 | 1196 | 3.06 | 2.43 | 0.79 | 1269 | 2.94 | 2.33 | 0.79 | 1293 |
| 26 | 20 | 3.50 | 2.36 | 0.67 | 1244 | 3.26 | 2.20 | 0.67 | 1305 | 3.15 | 2.12 | 0.67 | 1342 |
| 26 | 22 | 3.71 | 2.05 | 0.55 | 1293 | 3.47 | 1.92 | 0.55 | 1366 | 3.35 | 1.85 | 0.55 | 1391 |
| 26 | 24 | 3.91 | 1.69 | 0.43 | 1342 | 3.67 | 1.59 | 0.43 | 1403 | 3.57 | 1.55 | 0.43 | 1434 |
| 26 | 26 | 4.11 | 1.29 | 0.31 | 1391 | 3.88 | 1.21 | 0.31 | 1452 | 3.76 | 1.18 | 0.31 | 1482 |
| 27 | 18 | 3.33 | 2.78 | 0.83 | 1196 | 3.06 | 2.55 | 0.83 | 1269 | 2.94 | 2.45 | 0.83 | 1293 |
| 27 | 20 | 3.50 | 2.50 | 0.71 | 1244 | 3.26 | 2.33 | 0.71 | 1305 | 3.15 | 2.24 | 0.71 | 1342 |
| 27 | 22 | 3.71 | 2.20 | 0.59 | 1293 | 3.47 | 2.06 | 0.59 | 1366 | 3.35 | 1.99 | 0.59 | 1391 |
| 27 | 24 | 3.91 | 1.85 | 0.47 | 1342 | 3.67 | 1.74 | 0.47 | 1403 | 3.57 | 1.69 | 0.47 | 1434 |
| 27 | 26 | 4.11 | 1.45 | 0.35 | 1391 | 3.88 | 1.37 | 0.35 | 1452 | 3.76 | 1.33 | 0.35 | 1482 |
| 28 | 18 | 3.33 | 2.91 | 0.87 | 1196 | 3.06 | 2.67 | 0.87 | 1269 | 2.94 | 2.57 | 0.87 | 1293 |
| 28 | 20 | 3.50 | 2.64 | 0.75 | 1244 | 3.26 | 2.46 | 0.75 | 1305 | 3.15 | 2.37 | 0.75 | 1342 |
| 28 | 22 | 3.71 | 2.35 | 0.63 | 1293 | 3.47 | 2.20 | 0.63 | 1366 | 3.35 | 2.12 | 0.63 | 1391 |
| 28 | 24 | 3.91 | 2.01 | 0.51 | 1342 | 3.67 | 1.88 | 0.51 | 1403 | 3.57 | 1.83 | 0.51 | 1434 |
| 28 | 26 | 4.11 | 1.62 | 0.39 | 1391 | 3.88 | 1.52 | 0.39 | 1452 | 3.76 | 1.48 | 0.39 | 1482 |
| 29 | 18 | 3.33 | 3.04 | 0.91 | 1196 | 3.06 | 2.79 | 0.91 | 1269 | 2.94 | 2.69 | 0.91 | 1293 |
| 29 | 20 | 3.50 | 2.78 | 0.79 | 1244 | 3.26 | 2.59 | 0.79 | 1305 | 3.15 | 2.49 | 0.79 | 1342 |
| 29 | 22 | 3.71 | 2.49 | 0.67 | 1293 | 3.47 | 2.33 | 0.67 | 1366 | 3.35 | 2.25 | 0.67 | 1391 |
| 29 | 24 | 3.91 | 2.16 | 0.55 | 1342 | 3.67 | 2.03 | 0.55 | 1403 | 3.57 | 1.97 | 0.55 | 1434 |
| 29 | 26 | 4.11 | 1.78 | 0.43 | 1391 | 3.88 | 1.68 | 0.43 | 1452 | 3.76 | 1.63 | 0.43 | 1482 |
| 30 | 18 | 3.33 | 3.18 | 0.95 | 1196 | 3.06 | 2.92 | 0.95 | 1269 | 2.94 | 2.80 | 0.95 | 1293 |
| 30 | 20 | 3.50 | 2.92 | 0.83 | 1244 | 3.26 | 2.72 | 0.83 | 1305 | 3.15 | 2.62 | 0.83 | 1342 |
| 30 | 22 | 3.71 | 2.64 | 0.71 | 1293 | 3.47 | 2.47 | 0.71 | 1366 | 3.35 | 2.39 | 0.71 | 1391 |
| 30 | 24 | 3.91 | 2.32 | 0.59 | 1342 | 3.67 | 2.18 | 0.59 | 1403 | 3.57 | 2.12 | 0.59 | 1434 |
| 30 | 26 | 4.11 | 1.95 | 0.47 | 1391 | 3.88 | 1.83 | 0.47 | 1452 | 3.76 | 1.78 | 0.47 | 1482 |
| 31 | 18 | 3.33 | 3.31 | 0.99 | 1196 | 3.06 | 3.04 | 0.99 | 1269 | 2.94 | 2.92 | 0.99 | 1293 |
| 31 | 20 | 3.50 | 3.06 | 0.87 | 1244 | 3.26 | 2.85 | 0.87 | 1305 | 3.15 | 2.75 | 0.87 | 1342 |
| 31 | 22 | 3.71 | 2.79 | 0.75 | 1293 | 3.47 | 2.61 | 0.75 | 1366 | 3.35 | 2.52 | 0.75 | 1391 |
| 31 | 24 | 3.91 | 2.48 | 0.63 | 1342 | 3.67 | 2.32 | 0.63 | 1403 | 3.57 | 2.26 | 0.63 | 1434 |
| 31 | 26 | 4.11 | 2.11 | 0.51 | 1391 | 3.88 | 1.99 | 0.51 | 1452 | 3.76 | 1.93 | 0.51 | 1482 |
| 32 | 18 | 3.33 | 3.44 | 1.03 | 1196 | 3.06 | 3.16 | 1.03 | 1269 | 2.94 | 3.04 | 1.03 | 1293 |
| 32 | 20 | 3.50 | 3.20 | 0.91 | 1244 | 3.26 | 2.98 | 0.91 | 1305 | 3.15 | 2.87 | 0.91 | 1342 |
| 32 | 22 | 3.71 | 2.94 | 0.79 | 1293 | 3.47 | 2.75 | 0.79 | 1366 | 3.35 | 2.66 | 0.79 | 1391 |
| 32 | 24 | 3.91 | 2.63 | 0.67 | 1342 | 3.67 | 2.47 | 0.67 | 1403 | 3.57 | 2.40 | 0.67 | 1434 |
| 32 | 26 | 4.11 | 2.28 | 0.55 | 1391 | 3.88 | 2.14 | 0.55 | 1452 | 3.76 | 2.08 | 0.55 | 1482 |

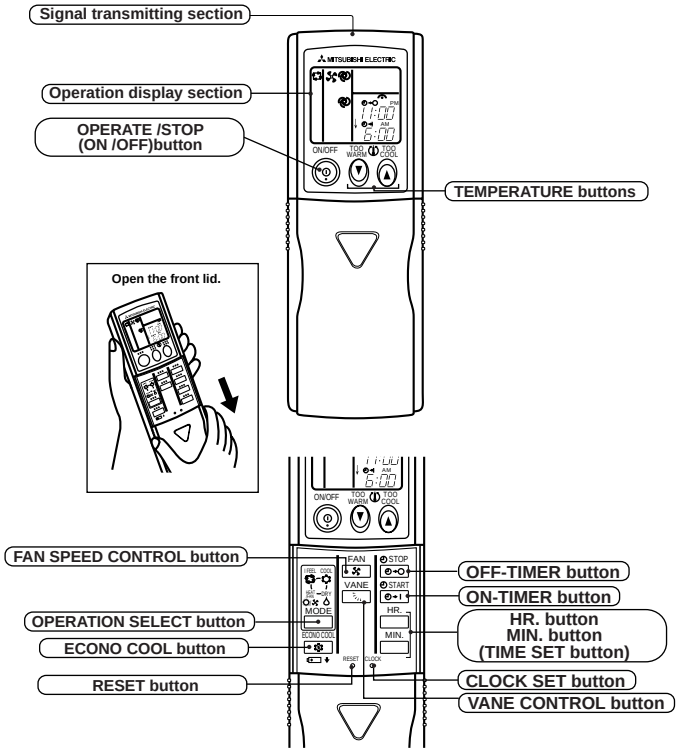
**NOTE** Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

# 10 MICROPROCESSOR CONTROL

**MSC-A07WV -E1 MU-A07WV -E1 MUH-A07WV -E1 MUX-A10WV -E1 MUX-A25WV -E1**
**MSC-A09WV -E1 MU-A09WV -E1 MUH-A09WV -E1 MUX-A19WV -E1 MUX-A26WV -E1**
**MSC-A12WV -E1 MU-A12WV -E1 MUH-A12WV -E1 MUX-A20WV -E1**

Once the operation mode are set, the same operation mode can be repeated by simply turning the OPERATE/STOP (ON/OFF) button ON. Indoor unit receives the signal with a beep tone.
When the system turns off, 3-minute time delay will operate to protect system from overload and compressor will not restart for 3 minutes.

## WIRELESS REMOTE CONTROLLER




## INDOOR UNIT DISPLAY SECTION

**Operation Indicator lamp**

The operation indicator at the right side of the indoor unit indicates the operation state.

- The following indication does not depend on the shape of lamp.

**Operation Indicator** ■ **lighted** □ **not lighted**

| Indication | Operation state | Difference between target temperature and room temperature |
|---|---|---|
| ■ ■ | This shows that the air conditioner is operating to reach the target temperature. Please wait unit the target temperature is obtained. | Approx. 2 ℃ or more |
| ■ □ | This shows that the room temperature is approaching the target temperature. | Approx. 2 ℃ or less |

### 10-1. COOL ( ✿ ) OPERATION

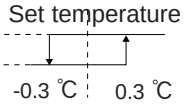
(1) Press OPERATE/STOP(ON/OFF) button. OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select COOL mode with the OPERATION SELECT button.
(3) Press TEMPERATURE buttons (TOO WARM or TOO COOL button)to select the desired temperature.
The setting range is 16 ~ 31°C

**1. Thermostat control**

Thermostat is ON or OFF by difference between room temperature and set temperature

| Initial temperature difference | Thermostat |
|---|---|
| Room temperature minus set temperature : 0.3 ℃ or more | ON |
| Room temperature minus set temperature : less than -0.3 ℃ | OFF |

Difference between room temperature and set temperature during operation

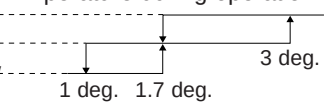



**2. Indoor fan speed control**

Indoor fan operates continuously at the set speed by FAN SPEED CONTROL button regardless of thermostat's OFF-ON.
In Auto the fan speed is as follows.

| Initial temperature difference | Fan speed |
|---|---|
| Room temperature minus set temperature : 1.7 degrees or more | High |
| Room temperature minus set temperature : Between 1 and 1.7 degrees | Med. |
| Room temperature minus set temperature : less than 1 degree | Low |

Difference between room temperature and set temperature during operation



**3. Coil frost prevention**

① Temperature control

When the indoor coil thermistor RT12 reads 4°C or below(MSC-A07/A09WV) / 0°C or below(MSC-A12WV) for 5 minutes, the coil frost prevention mode starts.

The indoor fan operates at the set speed and the compressor stops for 5 minutes.
After that, if RT12 still reads below 4°C (MSC-A07/A09WV) / 0°C (MSC-A12WV), this mode is prolonged until the RT12 reads over 4°C (MSC-A07/A09WV) / 0°C (MSC-A12WV).

② Time control

When the three conditions as follows have been satisfied for 1 hour and 45 minutes, the compressor stops for 3 minutes. The indoor fan operates at the set speed.

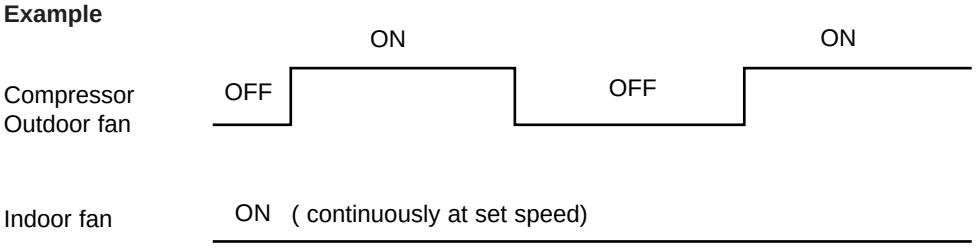
a. Compressor has been continuously operating.
b. Indoor fan speed is Low or Med.
c. Room temperature is below 26°C.

When compressor stops, the accumulated time is cancelled. When compressor restarts, time counting starts from the beginning.

Time counting also stops temporarily when the indoor fan speed becomes High or the room temperature exceeds 26°C. However, when two of the above conditions (b.and c.) are satisfied again, time accumulation is resumed.

**Operation chart**

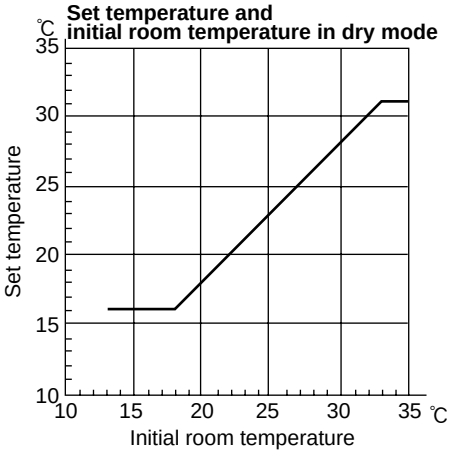
**Example**




## 10-2. DRY ( ♺ ) OPERATION

(1) Press OPERATE/STOP(ON/OFF) button.
OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select DRY mode with the OPERATION SELECT button.
(3) The microprocessor reads the room temperature and determines the set temperature. Set temperature is as shown on the right chart.
DRY operation will not function when the room temperature is 13°C or below.
(4) When DRY operation functions the fan speed is lower than cool operation expect at (fan speed) Low.

**Set temperature and initial room temperature in dry mode**



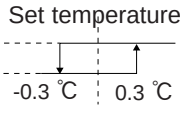

The system for dry operation uses the same refrigerant circuit as the cooling circuit.
The compressor and the indoor fan are controlled by the room temperature.

**1. Thermostat control**

Thermostat is ON or OFF by difference between room temperature and set temperature

| Initial temperature difference | Thermostat |
|---|---|
| Room temperature minus set temperature : 0.3 ℃ or more | ON |
| Room temperature minus set temperature : less than -0.3 ℃ | OFF |

Difference between room temperature and set temperature during operation




**2. Indoor fan speed control**

Indoor fan operates at the set speed by FAN SPEED CONTROL button .
In Auto fan speed becomes Low.

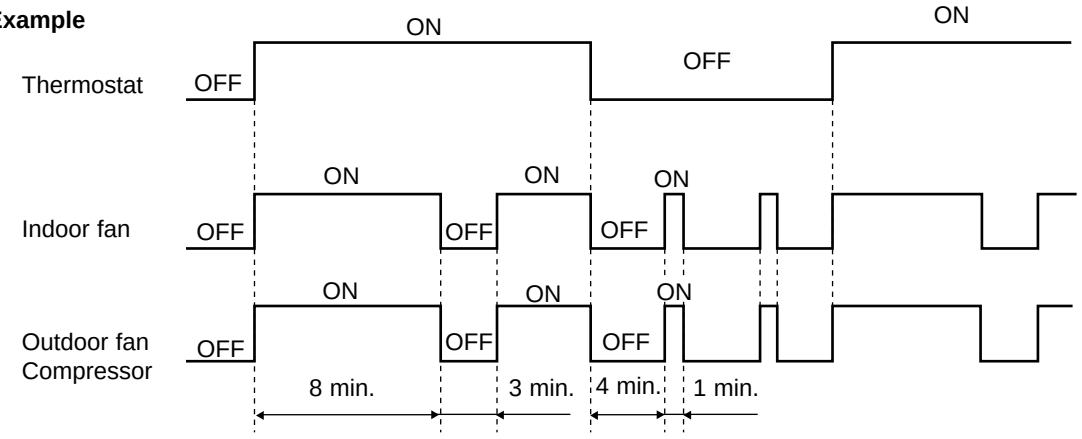
**3. The operation of the compressor and indoor / outdoor fan <MU-A07/A09/A12WV, MUH-A07/A09/A12WV, MUX-A10/A19/A20/A25/A26WV>**

Compressor operates by room temperature control and time control.
Indoor fan and outdoor fan operate in the same cycle as the compressor.

- When the room temperature is 23°C or over:
  When the thermostat is ON, the compressor repeats 8 minutes ON and 3 minutes OFF.
  When the thermostat is OFF, the compressor repeats 4 minutes OFF and 1 minute ON.
- When the room temperature is under 23°C.
  When the thermostat is ON, the compressor repeats 2 minutes ON and 3 minutes OFF.
  When the thermostat is OFF, the compressor repeats 4 minutes OFF and 1 minute ON.

**Operation time chart**

**Example**




**4. Coil frost prevention**

The operation is as same as coil frost prevention during COOL operation.(Refer to 10-1.3.)
However when coil frost prevention works while the indoor fan is OFF, it's speed becomes set speed.

## 10-3. FAN ( ✾ ) OPERATION <MU-A07/A09/A12WV, MUX-A10/A19/A20/A25/A26WV>

(1) Press OPERATE/STOP(ON/OFF) button. OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select FAN mode with the OPERATION SELECT button.
(3) Select the desired fan speed. When AUTO, it becomes Low.
Only indoor fan operates.
Outdoor unit does not operate.

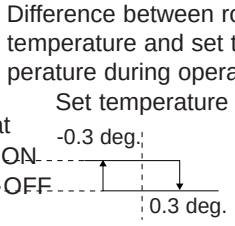
## 10-4. HEAT ( ☼ ) OPERATION <MUH-A07/A09/A12WV>

(1) Press OPERATE/STOP(ON/OFF) button.
OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select HEAT mode with the OPERATION SELECT button.
(3) Press TEMPERATURE buttons (TOO WARM or TOO COOL button) to select the desired temperature.
The setting range is 16 ~ 31°C.

**1. Thermostat control**

Thermostat is ON or OFF by difference between room temperature and set temperature

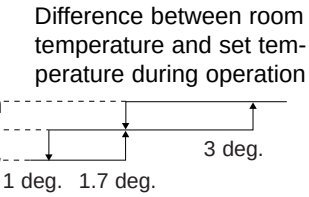
| Initial temperature difference | Thermostat |
|---|---|
| Room temperature minus set temperature : less than -0.3 ℃ | ON |
| Room temperature minus set temperature : 0.3 ℃ or more | OFF |



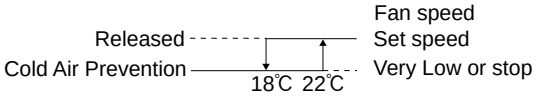

**2. Indoor fan speed control**

(1) Indoor fan operates at the set speed by FAN SPEED CONTROL button.
In Auto the fan speed is as follows.

| Initial temperature difference | Fan speed |
|---|---|
| Set temperature minus room temperature: 1.7 degrees or more | High |
| Set temperature minus room temperature: Between 1 and 1.7 degrees | Med. |
| Set temperature minus room temperature: less than 1 degree | Low |




(2) Cold air prevention control
① When the compressor is not operating,
(Ⅰ) if the temperature of indoor coil thermistor RT12 is 0°C or less, the fan stops.
(Ⅱ) if the temperature of indoor coil thermistor RT12 is more than 0°C, the fan operates at Very Low.
② When the compressor is operating,
(Ⅰ) if the temperature of RT12 is 22°C or more, the fan operates at set speed.
(Ⅱ) if the temperature of RT12 is less than 22°C and
(ⅰ) if the temperature of room temperature thermistor RT11 is 15°C or less, the fan stops.
(ⅱ) if the temperature of room temperature thermistor RT11 is more than 15°C, the fan operates at Very Low.




**NOTE :** If the temperature of RT12 reads from 18°C to 22°C at the air conditioner stating and also after defrosting, this control works.

(3) Warm air control.

When the following any condition of ①(a. ~ d.) and the condition of ② are satisfied at the same time, warm air control works.

① a.) when the operation mode has been changed to HEAT mode
b.) when cold air prevention has been released
c.) when defrosting has been finished
d.) when the compressor starts in HEAT mode

② When the temperature of indoor coil thermistor RT12 is less than 37°C.

When warm air control works, the fan speed changes as follows to blow out warm air gradually.

**Gradation of fan speed in initial**

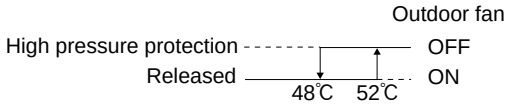
| <Time condition> | <Indoor fan speed> |
|---|---|
| less than 2 minutes | Low |
| 2 minutes to 4 minutes | Med. |
| more than 4 minutes | High |

The upper limit of the fan speed in MANUAL is the set speed.
The upper limit of the fan speed in AUTO is the speed decided by indoor fan speed control.(Refer to 10-4.2.(1).)
When the temperature of RT12 has been 37°C or more, or when the set speed has been changed, this control is released and the fan speed is the set speed.

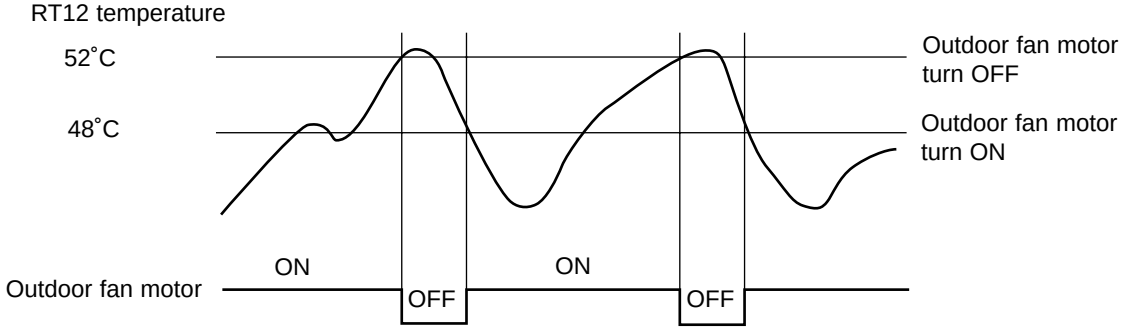
**3. High pressure protection <MUH-A07/A09/A12WV>**

During heating operation, the outdoor fan motor is controlled by the temperature of indoor coil thermistor RT12 for excess rise protection of compressor discharge pressure.

Outdoor fan OFF: 52℃
Outdoor fan ON: 48℃




**Operation chart**
**Example**




**NOTE :** During high pressure protection and for 4 min. and 15 sec. after high pressure protection, defrosting of outdoor heat exchanger is not detected by the defrost thermistor RT61.(Refer to 10-4.4. Defrosting.)

**4. Defrosting <MUH-A07/A09/A12WV>**

Defrosting of outdoor heat exchanger is controlled by DEICER P.C. board, with detection by the defrost thermistor RT61.

(1) Starting conditions of defrost

When all conditions of a) ~ c) are satisfied, the defrosting operation starts.

a) The compressor cumulative operation time exceeds 40 minutes without the defrosting operation working.

b) RT61 reads - 3°C or less.

c) After releasing the high pressure protection 4 minutes and 15 seconds have elapsed.

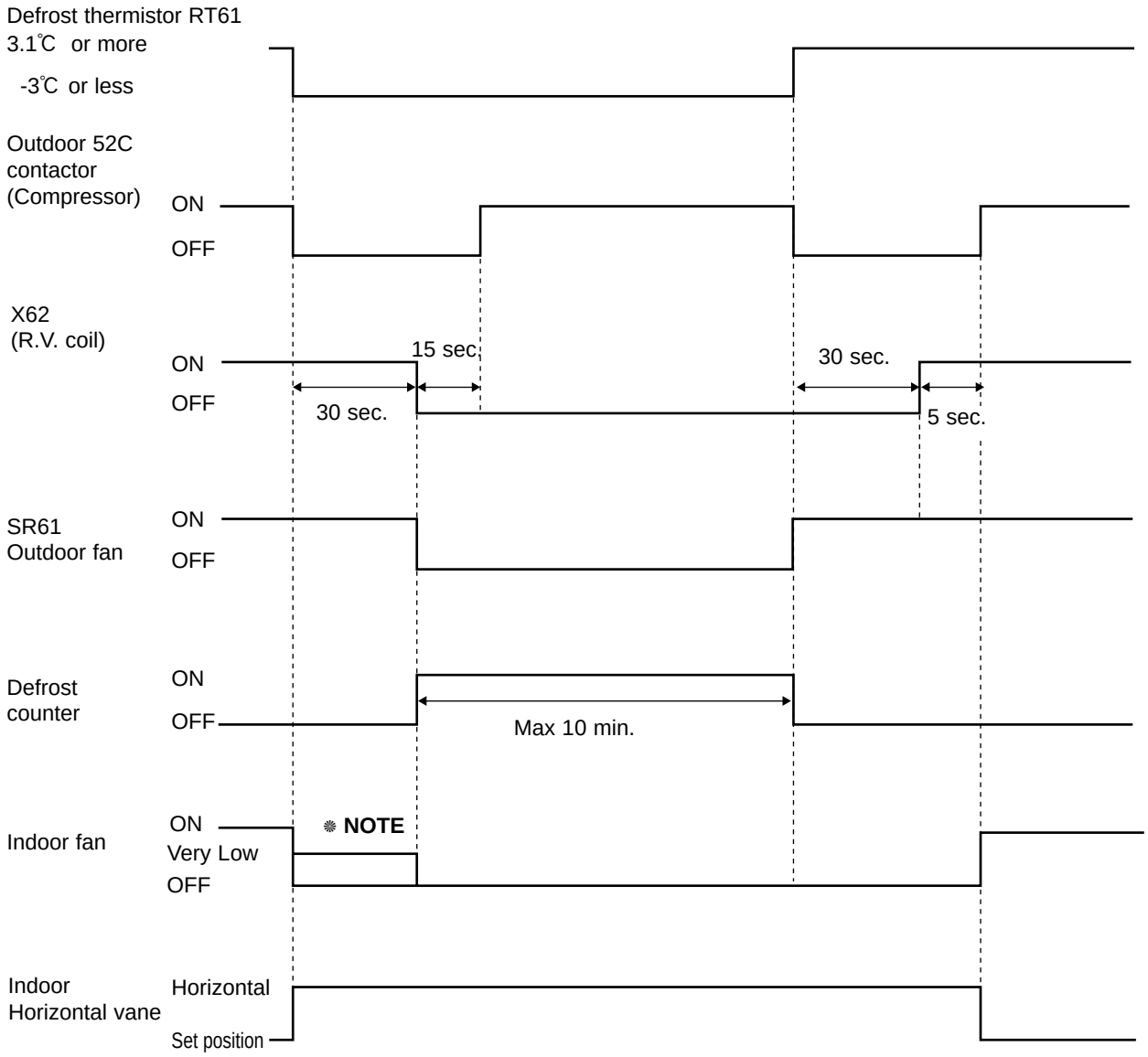
(2) Releasing conditions of defrost

When the condition d) or e) is satisfied, the defrosting operation stops.

d) RT61 reads 3.1°C or more.

e) The defrosting time exceeds 10 minutes.

**Operation time chart**
**Example**



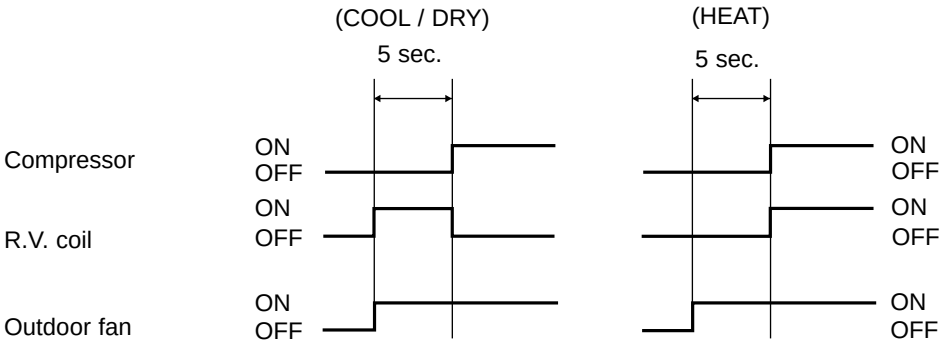

**NOTE** ● When the indoor coil thermistor RT12 reads above 0°C, indoor fan operates at Very Low for 30 seconds.
● When the indoor coil thermistor RT12 reads 0°C or less, the indoor fan stops.

**5. R.V. coil control <MUH-A07/A09/A12WV>**

Heating · · · · · ON
Cooling · · · · · OFF
Dry · · · · · · · · · OFF

When operation starts, the 4-way valve reverses for 5 seconds right before start-up of the compressor.

**Operation time chart**




## 10-5. "I FEEL CONTROL" ( ▭ ) OPERATION

(1) Press OPERATE/STOP(ON/OFF) button.
OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.

(2) Select "I FEEL CONTROL"( ▭ ) mode with the OPERATION SELECT button.

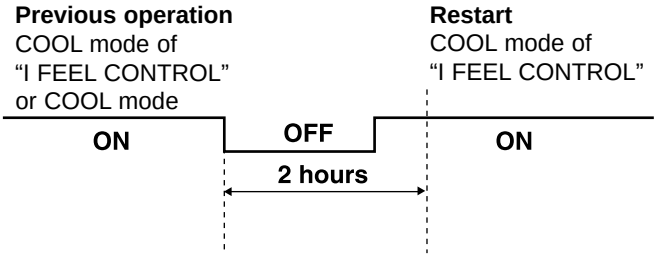
(3) The operation mode is determined by the initial room temperature at start-up of the operation, as shown on the right table.

| Initial room temperature | | Mode |
|---|---|---|
| **MU&MUX type** | **MUH type** | |
| 25℃ or more | 25℃ or more | COOL mode of "I FEEL CONTROL" |
| more than13℃, less than 25℃ | 23℃ or more, less than 25℃ | DRY mode of "I FEEL CONTROL" |
| ——— | less than 23℃ | HEAT mode of "I FEEL CONTROL" |

- Once the mode is fixed, the mode does not change by room temperature afterwards.
- Under the ON-TIMER ( ◴→| ) operation, mode is determined according to the room temperature at set time the operation starts.
- When the system is stopped on the remote controller and restarted within 2 hours in "I FEEL CONTROL" ( ▭ ) mode, the system operates in previous mode automatically regardless of the room temperature.

**Operation time chart**

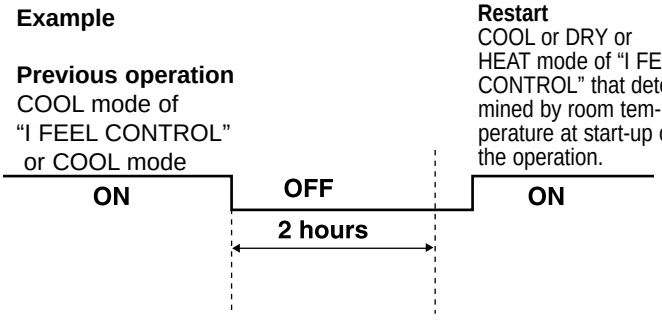
**Example**




When the system is restarted after 2 hours and more, the operation mode is determined by the room temperature at start-up of the operation.

**Operation time chart**

**Example**



(4) The initial set temperature is decided by the initial room temperature.

| Mode | Initial room temperature | | Initial set temperature | |
|---|---|---|---|---|
| | **MU & MUX type** | **MUH type** | | |
| COOL mode of "I FEEL CONTROL" | 26℃ or more | 26℃ or more | 24℃ | ❋1 |
| | 25℃ or more, less than 26℃ | 25℃ or more, less than 26℃ | Initial room temperature minus 2℃ | |
| DRY mode of "I FEEL CONTROL" | more than 13℃, less than 25℃ | 23℃ or more, less than25℃ | Initial room temperature minus 2℃ | |
| HEAT mode of "I FEEL CONTROL" | ——— | less than 23℃ | 26℃ | |

❋1 When the system is restarted with the remote controller, the system operates with the previous set temperature regardless of the room temperature at restart.

(5) TEMPERATURES buttons

In “I FEEL CONTROL” ( ) mode, set temperature is decided by the microprocessor based on the room temperature. In addition, set temperature can be controlled by TOO WARM or TOO COOL buttons when you feel too cool or too warm. Each time the TOO WARM or TOO COOL button is pressed, the indoor unit receives the signal and emits a beep tone.

● **Fuzzy control**

When the TOO COOL or TOO WARM button is pressed, the microprocessor changes the set temperature, considering the room temperature, the frequency of pressing TOO COOL or TOO WARM button and the user’s preference to heat or cool. So this is called “Fuzzy control”, and works only in “I FEEL CONTROL” mode.
In DRY mode of “I FEEL CONTROL”, the set temperature doesn’t change.

⋯ To raise the set temperature 1~2 degrees(°C)

⋯ To lower the set temperature 1~2 degrees(°C)

**10-5-1. COOL mode of “I FEEL CONTROL”**

**1. Thermostat control**
Thermostat control is as same as COOL OPERATION.(10-1.1.)

**2. Indoor fan speed control**
Indoor fan speed control is as same as COOL OPERATION.(10-1.2.)

**3. Coil frost prevention**
Coil frost prevention is as same as COOL OPERATION.(10-1.3.)

**10-5-2. DRY mode of “I FEEL CONTROL”**

**1. Thermostat control**
Thermostat control is as same as DRY OPERATION.(10-2.1.)

**2. Indoor fan speed control**
Indoor fan speed control is as same as DRY OPERATION.(10-2.2.)

**3. The operation of the compressor and indoor / outdoor fan**
The operation of the compressor and indoor / outdoor fan is as same as DRY OPERATION.(10-2.3.)

**4. Coil frost prevention**
Coil frost prevention is as same as DRY OPERATION.(10-2.4.)

**10-5-3. HEAT mode of “I FEEL CONTROL” <MUH-A07/A09/A12WV>**

**1. Thermostat control**
Thermostat control is as same as HEAT OPERATION.(10-4.1.)

**2. Indoor fan speed control**
Indoor fan speed control is as same as HEAT OPERATION.(10-4.2.)

**3. High pressure protection**
High pressure protection is as same as HEAT OPERATION.(10-4.3.)

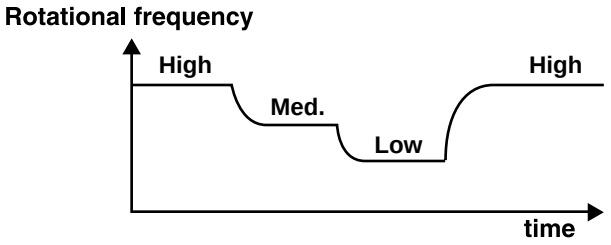
**4. Defrosting**
Defrosting is as same as HEAT OPERATION.(10-4.4.)

**5. R.V. coil control**
R.V. coil control is as same as HEAT OPERATION.(10-4.5.)

## 10-6. FAN MOTOR CONTROL

(1) Rotational frequency feedback control

The indoor fan motor is equipped with a rotational frequency sensor, and outputs signal to the microprocessor to feedback the rotational frequency. Comparing the current rotational frequency with the target rotational frequency (High,Med.,Low), the microprocessor controls SR141 and adjusts fan motor electric current to make the current rotational frequency close to the target rotational frequency. With this control, when the fan speed is switched, the rotational frequency changes smoothly.




(2) Fan motor lock-up protection

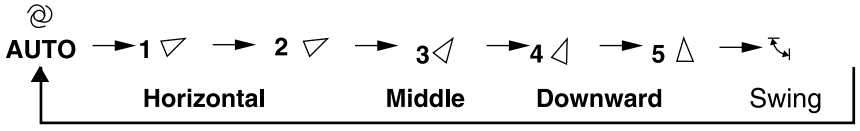
When the rotational frequency feedback signal is not output for 12 seconds, (or when the microprocessor cannot detect the signal for 12 seconds) the fan motor is regarded locked-up. Then the electric current to the fan motor is shut off. 3 minutes later, the electric current is applied to the fan motor again. During the fan motor lock-up, the OPERATION INDICATOR lamp flashes on and off to show the fan motor abnormality. (Refer to page 91.)

## 10-7. AUTO VANE OPERATION

(1) Vane motor drive

These models are equipped with a stepping motor for the horizontal vane. The rotating direction, speed, and angle of the motor are controlled by pulse signals (approx. 12V) transmitted from indoor microprocessor.

(2) The horizontal vane angle and mode changes as follows by pressing the VANE CONTROL button.




(3) Positioning

The vane is once pressed to the vane stopper below to confirm the standard position and then set to the desired angle. Confirming of standard position is performed in case of follows.

(a) When the OPERATE / STOP(ON / OFF) button is pressed.
(b) When the vane control is changed from AUTO to MANUAL.
(c) When the SWING is finished.
(d) When the test run starts.
(e) When the power supply turns ON.

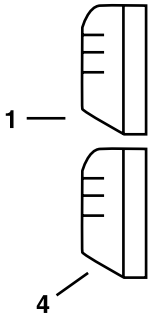
(4) VANE AUTO ( ) mode

In VANE AUTO mode, the microprocessor automatically determines the vane angle to make the optimum room-temperature distribution.

① In COOL and DRY operation

② In FAN operation **<MU-A07/A09/A12WV>**

② In HEAT operation **<MUH-A07/A09/A12WV>**




Vane angle is fixed to Angle 1.

Vane angle is fixed to Angle 4.

(5) Dew prevention

During COOL or DRY operation at Vane Angle 4 or 5 when the cumulative operation time of compressor exceeds 1 hour, the vane angle automatically changes to Angle 1 for dew prevention.

(6) SWING MODE ( )

By selecting SWING mode with the VANE CONTROL button, the horizontal vane swings vertically. The remote controller displays " ".

(7) Cold air prevention in HEAT operation **<MUH-A07/A09/A12WV>**

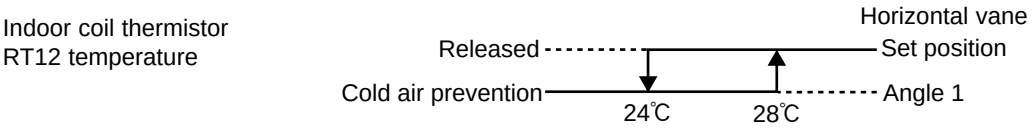
When any of the following conditions occurs in HEAT operation, the horizontal vane angle changes to Angle 1 automatically to prevent cold air blowing on users.

① Compressor is not operating.

② Defrosting is performed.

③ Indoor coil thermistor RT12 reads 24℃ or below.

④ Indoor coil thermistor RT12 temperature is raising from 24°C or below, but it does not exceed 28℃.




**NOTE :** If the temperature of RT12 reads from 24°C to 28°C at the air conditioner stating , this control works.

(8) ECONO COOL ( ) operation (ECONOmical operation)

When the ECONO COOL button is pressed in COOL mode, set temperature is automatically set 2°C higher than that in COOL mode.

Also the horizontal vane swings in various cycle according to the temperature of indoor heat exchanger(RT12).

SWING operation makes you feel cooler than set temperature. So, even though the set temperature is higher than that in COOL mode, the air conditioner can keep comfort. As a result, energy can be saved.

ECONO COOL operation is cancelled when the ECONO COOL button is pressed once again or VANE CONTROL button is pressed or change to other operation mode.

**NOTE** : ECONO COOL operation not work in COOL mode of “I FEEL CONTROL”.

SWING operation

In swing operation of ECONO COOL operation mode, the initial air flow direction is adjusted to “Horizontal”.

According to the temperature of indoor coil thermistor RT12 at starting of this operation, next downward blow time is decided. Then when the downward blow has been finished, next upward blow time is decided.

For initial 10 min. the swing operation is performed in table G~H for quick cooling.

Also, after 10 min. when the difference of set temperature and room temperature is more than 2 degrees, the swing operation is performed in table D~H for more cooling.

The air conditioner repeats the swing operation in various cycle as follows.

| | Temperature of indoor coil thermistor RT12 | Downward blow time (sec.) | Horizontal blow time (sec.) |
|---|---|---|---|
| A | 15°C or less | 2 | 23 |
| B | 15°C to 17°C | 5 | 20 |
| C | 17°C to 18°C | 8 | 17 |
| D | 18°C to 20°C | 11 | 14 |
| E | 20°C to 21°C | 14 | 11 |
| F | 21°C to 22°C | 17 | 8 |
| G | 22°C to 24°C | 20 | 5 |
| H | more than 24°C | 23 | 2 |

## 10-8. TIMER OPERATION

### 1. How to set the timer

(1) Press OPERATE/STOP(ON/OFF) button to start the air conditioner.

(2) Check that the current time is set correctly.

**NOTE** : Timer operation will not work without setting the current time. Initially “AM0:00” blinks at the current time display of TIME MONITOR, so set the current time correctly with CLOCK SET button.

(3) Press ON or OFF TIMER buttons to select the operation.

“◴→| ” button... AUTO START operation (ON timer)

“◴→◯ ” button... AUTO STOP operation (OFF timer)

(4) Press HR. and MIN. button to set the timer. Time setting is 10-minute units.

HR. and MIN. button will work when " ◴→| " or " ◴→◯ " mark is flashing.
These marks disappear in 1 minute.
After setting the ON timer, check that OPERATION INDICATOR lamp of the indoor unit lights.

**NOTE1** : Be sure to place the remote controller at the position where its signal can reach the air conditioner even during TIMER operation, or the set time may deviate within the range of about 10 minutes.

**NOTE2** : Reset the timer in the following cases, or the set time may deviate and other malfunctions may occur.

- A power failure occurs.
- The circuit breaker functions.

**2. Cancel**

TIMER setting can be cancelled with the ON or OFF TIMER buttons. (" ◴→| " or " ◴→◯ ")

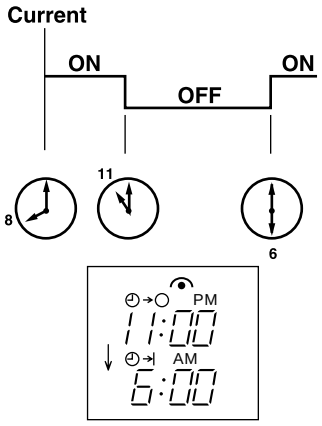
To cancel the ON timer, press the " ◴→| " button.

To cancel the OFF timer, press the " ◴→◯ " button.
TIMER is cancelled and the display of set time disappears.

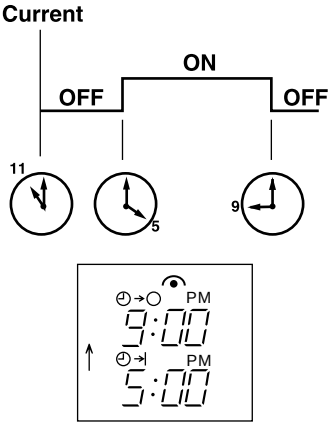
## PROGRAM TIMER

- The OFF timer and ON timer can be used in combination.
- " ↑ " and " ↓ " display shows the order of the OFF timer and ON timer operation.

(Example 1) The current time is 8:00 PM.
The unit turns off at 11:00 PM, and on at 6:00 AM.




(Example 2) The current time is 11:00 AM.
The unit turns on at 5:00 PM, and off at 9:00 PM.




**NOTE** : TIMER setting will be cancelled by power failure or breaker functioning.

## 10-9. EMERGENCY-TEST OPERATION

In case of test run operation or emergency operation, use the EMERGENCY OPERATION switch on the front of the indoor unit. Emergency operation is available when the remote controller is missing, has failed or the batteries of remote controller run down. The unit will start and the OPERATION INDICATOR lamp will light.
The first 30 minutes of operation is the test run operation. This operation is for servicing. The indoor fan speed runs at High speed and the system is in continuous operation. (The thermostat is ON.)
After 30 minutes of test run operation the system shifts to EMERGENCY COOL[/HEAT <MUH-A07/A09/A12WV>] MODE with a set temperature of 24°C.
The fan speed shifts to Med. speed.
The coil frost prevention works even in emergency operation[, and defrosting <MUH-A07/A09/A12WV> too].
In the test run or emergency operation, the horizontal vane operates in VANE AUTO ( ⟲ ) mode.
Emergency operation continues until the EMERGENCY OPERATION switch is pressed once again (MU-A07/A09/A12WV, MUX-A10/A19/A20/A25/A26WV)/once or twice (MUH-A07/A09/A12WV) or the unit receives any signal from the remote controller. In case of latter normal operation will start.

**NOTE** : Do not press the EMERGENCY OPERATION switch during normal operation.

• The following indication does not depend on the shape of lamp.

**OPERATION INDICATOR lamp**

| | |
|---|---|
| Press once <Cool> | ☀ □ |
| Press again <Heat> | □ ☀ |
| Press once again <Stop> | □ □ |

※Heat is available only in MUH-A07/A09/A12WV.

## 10-10. OUTDOOR UNIT ACTUATOR CONTROL

**MUX-A10WV -E1**

| ACTUATOR \ INDOOR UNIT | | | A | B |
|---|---|---|---|---|
| COMPRE-SSOR | MC | ON | ON | ON |
| | | | ON | OFF |
| | | | OFF | ON |
| | | OFF | OFF | OFF |
| OUTDOOR FAN MOTOR | MF61 | ON | ANY UNIT ON | |
| | | OFF | OFF | OFF |
| SOLENOID VALVE | 21R (BALANCE) | ON (CLOSE) | ON | ON |
| | | | ON | OFF |
| | | | OFF | ON |
| | | OFF (OPEN) | OFF | OFF |
| | 21R1 | ON (OPEN) | ON | – |
| | | OFF (CLOSE) | OFF | – |
| | 21R2 | ON (OPEN) | – | ON |
| | | OFF (CLOSE) | – | OFF |

**MUX-A20WV -E1**

| ACTUATOR \ INDOOR UNIT | | | A | B | C |
|---|---|---|---|---|---|
| COMPRE-SSOR | MC1 | ON | ON | – | – |
| | | OFF | OFF | – | – |
| | MC2 | ON | – | ON | ON |
| | | | – | ON | OFF |
| | | | – | OFF | ON |
| | | OFF | – | OFF | OFF |
| OUTDOOR FAN MOTOR | MF61 | ON | ANY UNIT ON | | |
| | | OFF | OFF | OFF | OFF |
| SOLENOID VALVE | 21R3 | ON (OPEN) | – | ON | – |
| | | OFF (CLOSE) | – | OFF | – |
| | 21R4 | ON (OPEN) | – | – | ON |
| | | OFF (CLOSE) | – | – | OFF |
| | 21RB | ON (CLOSE) | – | ON | ON |
| | | | – | ON | OFF |
| | | | – | OFF | ON |
| | | OFF (OPEN) | – | OFF | OFF |

**MUX-A19WV -E1 MUX-A25WV -E1**

| ACTUATOR \ INDOOR UNIT | | | A | B |
|---|---|---|---|---|
| COMPRE-SSOR | MC1 | ON | ON | – |
| | | OFF | OFF | – |
| | MC2 | ON | – | ON |
| | | OFF | – | OFF |
| OUTDOOR FAN MOTOR | MF61 | ON | ANY UNIT ON | |
| | | OFF | OFF | OFF |

**MUX-A26WV -E1**

| ACTUATOR \ INDOOR UNIT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| COMPRE-SSOR | MC1 | ON | ON | ON | – | – |
| | | | ON | OFF | – | – |
| | | | OFF | ON | – | – |
| | | OFF | OFF | OFF | – | – |
| | MC2 | ON | – | – | ON | ON |
| | | | – | – | ON | OFF |
| | | | – | – | OFF | ON |
| | | OFF | – | – | OFF | OFF |
| OUTDOOR FAN MOTOR | MF61 | ON | ANY UNIT ON | | | |
| | | OFF | OFF | OFF | OFF | OFF |
| SOLENOID VALVE | 21R1 | ON (OPEN) | ON | – | – | – |
| | | OFF (CLOSE) | OFF | – | – | – |
| | 21R2 | ON (OPEN) | – | ON | – | – |
| | | OFF (CLOSE) | – | OFF | – | – |
| | 21R3 | ON (OPEN) | – | – | ON | – |
| | | OFF (CLOSE) | – | – | OFF | – |
| | 21R4 | ON (OPEN) | – | – | – | ON |
| | | OFF (CLOSE) | – | – | – | OFF |
| | 21RA (BALANCE) | ON (CLOSE) | ON | ON | – | – |
| | | | ON | OFF | – | – |
| | | | OFF | ON | – | – |
| | | OFF (OPEN) | OFF | OFF | – | – |
| | 21RB (BALANCE) | ON (CLOSE) | – | – | ON | ON |
| | | | – | – | ON | OFF |
| | | | – | – | OFF | ON |
| | | OFF (OPEN) | – | – | OFF | OFF |

"–" means that the indoor unit is not related to the control of actuator.

# 11 SERVICE FUNCTIONS

**MSC-A07WV -E1 MU-A07WV -E1 MUH-A07WV -E1 MUX-A10WV -E1 MUX-A25WV -E1**
**MSC-A09WV -E1 MU-A09WV -E1 MUH-A09WV -E1 MUX-A19WV -E1 MUX-A26WV -E1**
**MSC-A12WV -E1 MU-A12WV -E1 MUH-A12WV -E1 MUX-A20WV -E1**

## 11-1. COMPULSORY DEFROSTING MODE FOR SERVICE <MUH-A07/A09/A12WV>

By short circuit of the connector JPDS and JPSG on the outdoor deicer P.C. board, defrosting mode can be accomplished regardless of the defrost interval restriction. (See page 103.)
Defrost thermistor RT61 must read below -3°C.

## 11-2. CHANGE IN DEFROST SETTING <MUH-A07/A09/A12WV>

<JRF> when the JRF wire of the deicer P.C. board is cut, the defrost interval time will be changed. (See page 103.)
<JRG> when the JRG wire of the deicer P.C. board is cut, the defrost temperature will be changed. (See page 103.)

| MODEL | Jumper wire | Change point |
|---|---|---|
| **MUH-A07WV - E1**<br>**MUH-A09WV - E1**<br>**MUH-A12WV - E1** | **JRF** | **Defrost interval time changes from 40 minutes to 15 minutes** |
| | **JRG** | **Deforst start temperature changes from -3℃ to 0℃**<br>**Deforst finish temperature changes from 3.1℃ to 10.1℃.** |

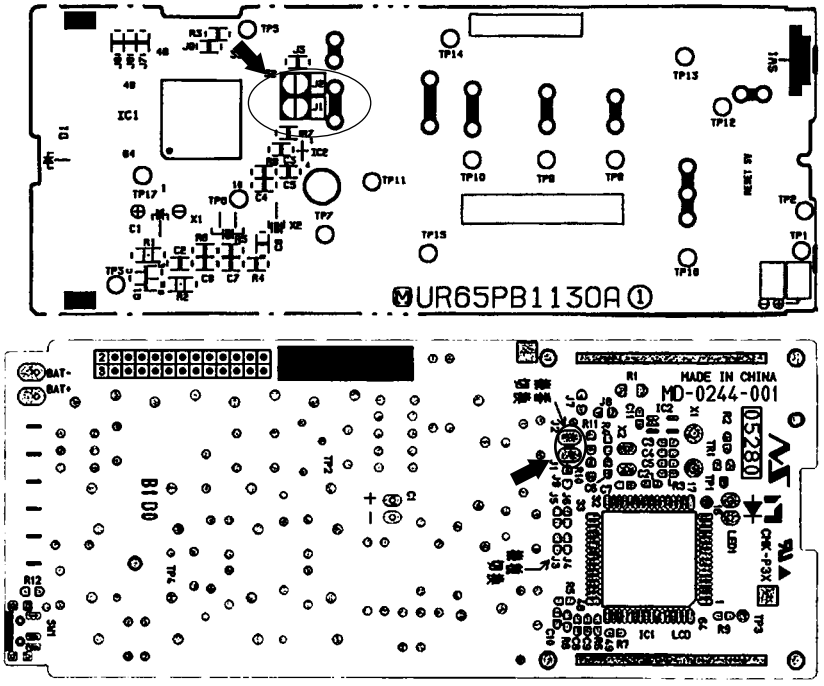
## 11-3. TIMER SHORT MODE

For service, set time can be shortened by short circuit of JPG and JPS the electronic control P.C. board.
The time will be shortened as follows. (Refer to page 102.)
Set time : 1 minute ➔ 1-second
Set time : 3 minute ➔ 3-second (It takes 3 minutes for the compressor to start operation. However, the starting time is shortened by short circuit of JPG and JPS.)

## 11-4. P.C. BOARD MODIFICATION FOR INDIVIDUAL OPERATION

A maximum of 4 indoor units with wireless remote controllers can be used in a room.
In this case, to operate each indoor unit individually by each remote controller, P.C. boards of remote controller must be modified according to the number of the indoor unit.

**How to modify the remote controller P.C. board**
Remove batteries before modification. The board has a print as shown below :




**NOTE** : For remodelling, take out the batteries and push the OPERATE/STOP(ON/OFF) button twice or 3 times at first.
After finish remodelling, put back the batteries then press the RESET button.

The P.C. board has the print “J1” and “J2”. Solder “J1” and “J2” according to the number of indoor unit as shown in Table 1.
After modification, press the RESET button.

**Table 1**

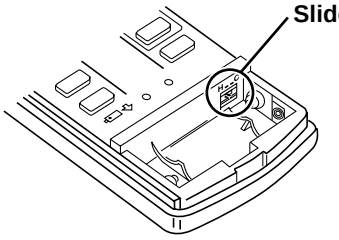
| | 1 unit operation | 2 units operation | 3 units operation | 4 units operation |
|---|---|---|---|---|
| No. 1 unit | No modification | Same as at left | Same as at left | Same as at left |
| No. 2 unit | – | Solder J1 | Same as at left | Same as at left |
| No. 3 unit | – | – | Solder J2 | Same as at left |
| No. 4 unit | – | – | – | Solder both J1 and J2 |

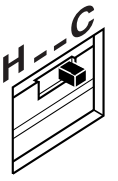
### How to set the remote controller exclusively for particular indoor unit

After you turn the breaker ON, the first remote controller that sends the signal to the indoor unit will be regarded as the remote controller for the indoor unit.
The indoor unit will only accepts the signal from the remote controller that has been assigned to the indoor unit once they are set.
The setting will be cancelled if the breaker has turned off, or the power supply has shut down.
Please conduct the above setting once again after the power has restored.

## 11-5. REMOTE CONTROLLER (How to set the type)

This remote controller setting needs to be switched according to the type of air conditioner (COOL & HEAT or COOL ONLY).
If the setting is incorrect, the air conditioner does not operate normally. Therefore, check if the setting corresponds to the type of air conditioner. If it does not, correct the setting as shown below.




| Type | COOL & HEAT | COOL ONLY |
|---|---|---|
| The position of the slide switch | |  |



## 11-6. MU TYPE / MUH TYPE SWITCH OVER AND AUTO RESTART FUNCTION

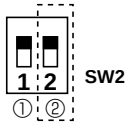
### 1. MU TYPE / MUH TYPE SWITCH OVER

The indoor units for MU type and MUH type are common specifications. Set switch according to the type of outdoor unit. The units are set for MUH type when they are shipped from the factory.

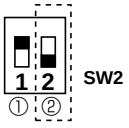
**How to switch over MU TYPE / MUH TYPE**

(1) Turn off the main power for the unit.
(2) Pull out the electronic control P.C. board, and change switch(SW2-②) on the indoor electronic control P.C. board according to the type of outdoor unit as following figures.

**Outdoor unit**
**MU & MUX type**
Set ② switch upside.

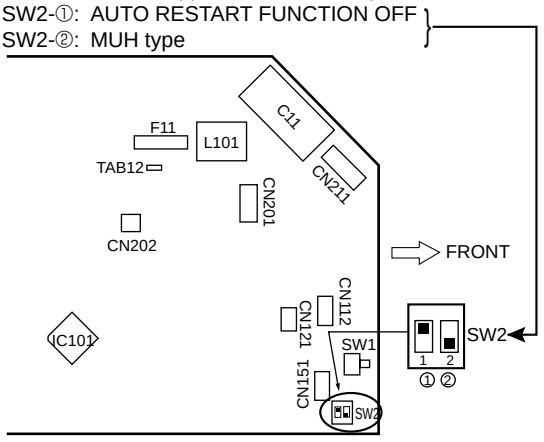



**Outdoor unit**
**MUH type**
Set ② switch downside.




SW2-① sets the AUTO RESTART FUNCTION ON / OFF.
SW2-② switches over the MU type/ MUH type.

When the units are shipped from the factory, SW2 is as follows.
SW2-①: AUTO RESTART FUNCTION OFF
SW2-②: MUH type




**NOTE:**
- If the indoor-outdoor connecting wire is incorrectly connected on the terminal block, the unit does not operate normally.
- If a ground is incorrect, it may cause an electric shock.

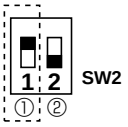
### 2. AUTO RESTART FUNCTION

When the indoor unit is controlled with the remote controller, the operation mode, set temperature, and the fan speed are memorized by the indoor electronic control P.C.board. The “AUTO RESTART FUNCTION” sets to work the moment power has restored after power failure.Then, the unit will restart automatically. However if the unit is operated in “I FEEL CONTROL” mode before power failure, the operation is not memorized. In “I FEEL CONTROL” mode, the operation is decided by the initial room temperature. “AUTO RESTART FUNCTION” is OFF when the units are shipped from the factory.

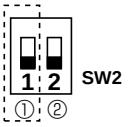
**How to set “AUTO RESTART FUNCTION”**

(1) Turn off the main power for the unit.
(2) Pull out the electronic control P.C. board, and change switch(SW2-①) on the indoor electronic control P.C. board as follow figures.

**AUTO RESTART FUNCTION OFF**
Set ① switch upside.




**AUTO RESTART FUNCTION ON**
Set ① switch downside.




**Operation**

(1) If the main power (230V AC) has been cut, the operation settings remain.
(2) After the power is restored, the unit restarts automatically according to the memory.(However, it takes at least 3 minutes for the compressor to start running.)

**NOTE**

- The operation settings are memorized when 10 seconds have passed after the remote controller was operated.
- If main power is cut while AUTO START/STOP timer is active ,the timer setting is cancelled.
- If the unit has been off with the remote controller before power failure, the auto restart function does not works as the power button of the remote controller is off.
- To prevent breaker off due to the rush of starting current, systematize other home appliance not to turn on at the same time.
- When some air conditioners are connected to the same supply system, if they are operated before power failure, the starting current of all the compressors may flow simultaneously at restart.
  Therefore, the special counter-measures are required to prevent the main voltage-drop or the rush of the starting current by adding to the system that allows the units to start one by one.

# 12 TROUBLESHOOTING

**MSC-A07WV -E1 MU-A07WV -E1 MUH-A07WV -E1 MUX-A10WV -E1 MUX-A25WV -E1**
**MSC-A09WV -E1 MU-A09WV -E1 MUH-A09WV -E1 MUX-A19WV -E1 MUX-A26WV -E1**
**MSC-A12WV -E1 MU-A12WV -E1 MUH-A12WV -E1 MUX-A20WV -E1**

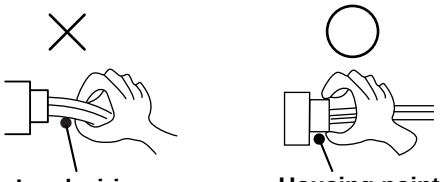
## 12-1. Cautions on troubleshooting

**1. Before troubleshooting, check the following:**

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for mis-wiring.

**2. Take care the following during servicing.**

1) Before servicing the air conditioner, be sure to first turn off the remote controller to stop the unit, and then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.



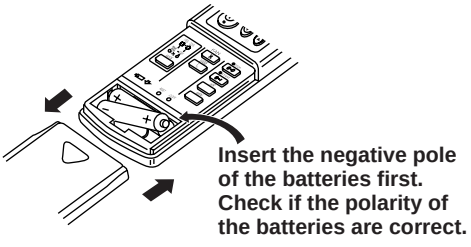

**3. Troubleshooting procedure**

1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
2) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
3) When troubleshooting, refer to the flow chart on page 90 and the check table on page 91.

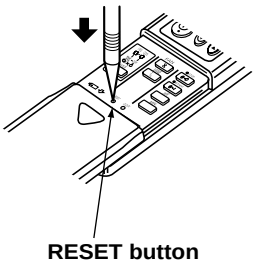
**4. How to replace batteries**

Weak batteries may cause the remote controller malfunction.
In this case, replace the batteries to operate the remote controller normally.

① Remove the front lid and insert batteries.
Then reattach the front lid.

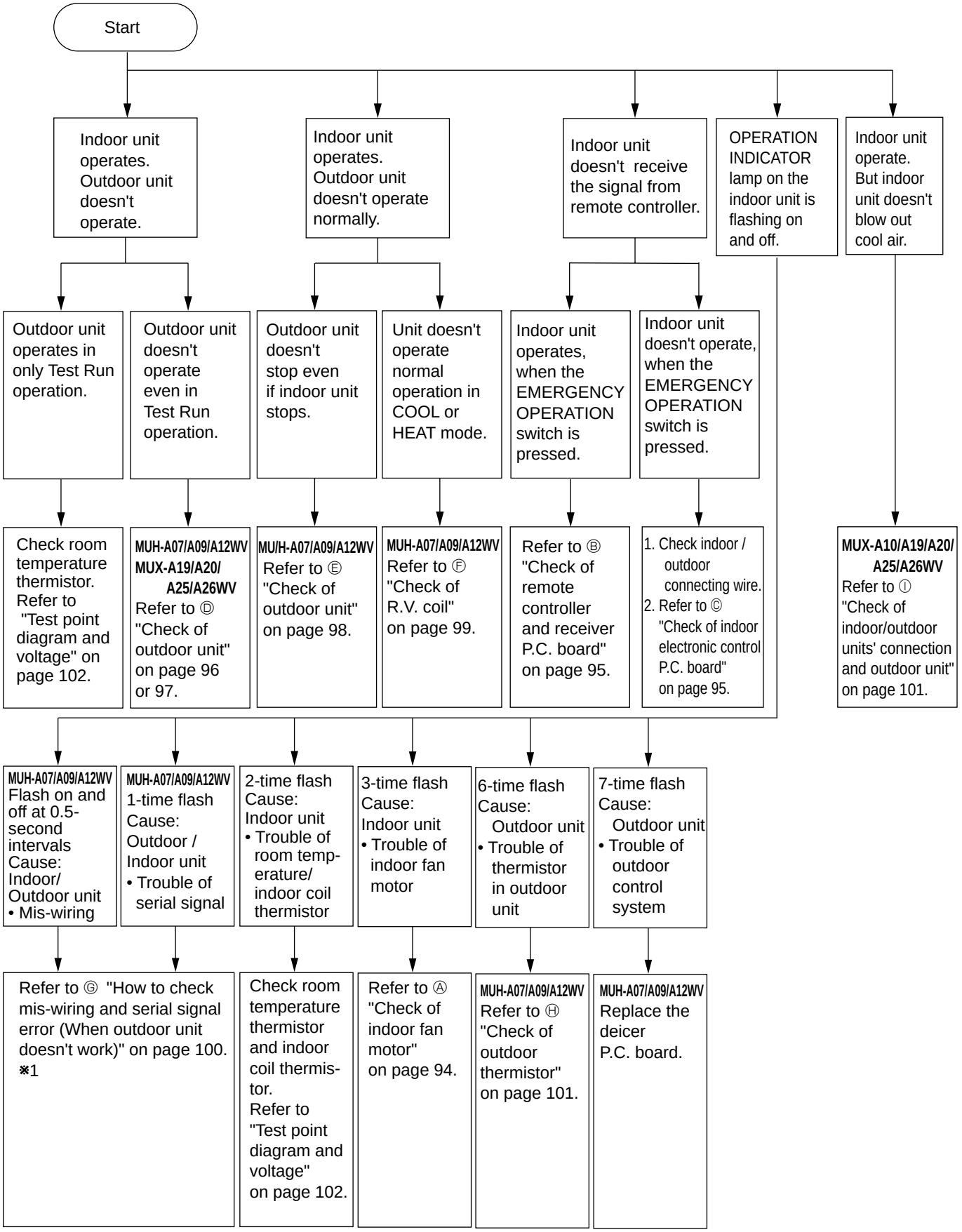



② Press the RESET button.




**NOTE** : If the RESET button is not pressed, the remote controller may not operate correctly.

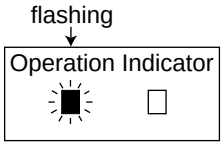
## 12-2. Instruction of troubleshooting


Start
Indoor unit operates. Outdoor unit doesn't operate.
Indoor unit operates. Outdoor unit doesn't operate normally.
Indoor unit doesn't receive the signal from remote controller.
OPERATION INDICATOR lamp on the indoor unit is flashing on and off.
Indoor unit operate. But indoor unit doesn't blow out cool air.
Outdoor unit operates in only Test Run operation.
Outdoor unit doesn't operate even in Test Run operation.
Outdoor unit doesn't stop even if indoor unit stops.
Unit doesn't operate normal operation in COOL or HEAT mode.
Indoor unit operates, when the EMERGENCY OPERATION switch is pressed.
Indoor unit doesn't operate, when the EMERGENCY OPERATION switch is pressed.
Check room temperature thermistor. Refer to "Test point diagram and voltage" on page 102.
MUH-A07/A09/A12WV MUX-A19/A20/ A25/A26WV Refer to Ⓓ "Check of outdoor unit" on page 96 or 97.
MU/H-A07/A09/A12WV Refer to Ⓔ "Check of outdoor unit" on page 98.
MUH-A07/A09/A12WV Refer to Ⓕ "Check of R.V. coil" on page 99.
Refer to Ⓑ "Check of remote controller and receiver P.C. board" on page 95.
1. Check indoor / outdoor connecting wire.
2. Refer to Ⓒ "Check of indoor electronic control P.C. board" on page 95.
MUX-A10/A19/A20/ A25/A26WV Refer to Ⓘ "Check of indoor/outdoor units' connection and outdoor unit" on page 101.
MUH-A07/A09/A12WV Flash on and off at 0.5-second intervals Cause: Indoor/ Outdoor unit • Mis-wiring
MUH-A07/A09/A12WV 1-time flash Cause: Outdoor / Indoor unit • Trouble of serial signal
2-time flash Cause: Indoor unit • Trouble of room temp-erature/ indoor coil thermistor
3-time flash Cause: Indoor unit • Trouble of indoor fan motor
6-time flash Cause: Outdoor unit • Trouble of thermistor in outdoor unit
7-time flash Cause: Outdoor unit • Trouble of outdoor control system
Refer to Ⓖ "How to check mis-wiring and serial signal error (When outdoor unit doesn't work)" on page 100. ※1
Check room temperature thermistor and indoor coil thermis-tor. Refer to "Test point diagram and voltage" on page 102.
Refer to Ⓐ "Check of indoor fan motor" on page 94.
MUH-A07/A09/A12WV Refer to Ⓗ "Check of outdoor thermistor" on page 101.
MUH-A07/A09/A12WV Replace the deicer P.C. board.

※1.<The case of the trouble of the serial signal>
When the power is turned off and then turned on again, the indication shows “the trouble of mis-wiring”.

## 12-3. Troubleshooting check table

• The following indication does not depend on the shape of lamp.




· Flashing of the OPERATION INDICATOR lamp (on the left-hand side) indicates possible abnormalities.
· The OPERATION INDICATOR lamp (on the left-hand side) is lighting during normal operation.

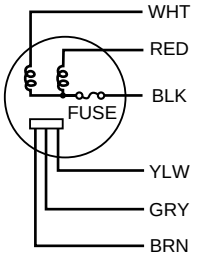
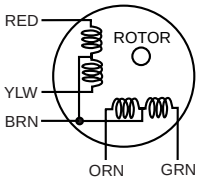
❋ Before taking measures, make sure that the symptom reappears, for accurate troubleshooting.

Self check table

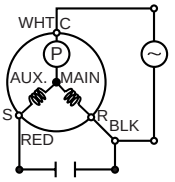
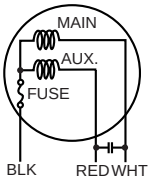
| NO. | Abnormal point | Indication | Symptom | Detect method | Check point |
|---|---|---|---|---|---|
| 1 | **MUH type** Mis-wiring | 0.5-second ON<br>0.5-second OFF | Outdoor unit does not run. | When serial signal stops for 4 to 5 seconds after 1st on of 52C relay by POWER turning on. | ● Check switch SW2-②.(MU type or MUH type)<br>● Check wiring (visual check and conductivity check).<br>● Check indoor electronic control P.C.board.<br>● Check outdoor DEICER P.C. board.<br>● Check electrical parts. |
| | **MUH type** Serial signal | 1-time flash<br>2.5-second OFF | | When serial signal from outdoor unit stops for 4 to 5 seconds. | |
| 2 | Indoor coil thermistor<br>Room temperature thermistor | 2-time flash<br>2.5-second OFF | Outdoor unit does not run. | Detect Indoor coil/room temperature thermistor short or open circuit every 8 seconds during operation. | ● Check resistance of thermistor.<br>● Reconnect connector.<br>● Check indoor electronic control P.C.board. |
| 3 | Indoor fan motor | 3-time flash<br>2.5-second OFF | Indoor fan motor repeats 12 seconds ON and 3 minutes OFF. When the indoor fan motor breaks, the fan keeps stopping. | When rotational frequency feedback pulse signal is not emit during 12-second indoor fan operation. | ● Disconnect connector CN211 and then check connector CN121②-③to make sure rotational frequency feedback signal of 1.5V or over exists.<br>● Check indoor electronic control P.C. board.<br>● Check indoor fan motor.<br>● Reconnect connector. |
| 4 | **MUH type** Defrost thermistor | 6-time flash<br>2.5-second OFF | Outdoor unit does not run. | When the defrost thermistor shorts or opens after the compressor start-up. | ● Check outdoor DEICER P.C. board.(MUH)<br>● Check resistance of thermistor.<br>● Reconnect connector. |
| 5 | **MUH type** Out door control system error | 7-time flash<br>2.5-second OFF | Outdoor unit does not run. | When it cannot properly read data in the nonvolatile memory of outdoor electronic control P.C. board. | ● Check outdoor control P.C. board. |

## 12-4. Trouble criterion of main parts

**MSC-A07WV -** E1
**MSC-A09WV -** E1
**MSC-A12WV -** E1

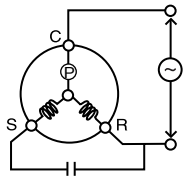
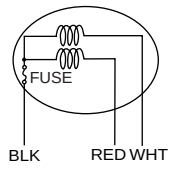
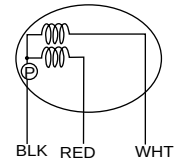
<table>
<tr><th>Part name</th><th colspan="2">Check method and criterion</th><th>Figure</th></tr>
<tr><td>Room temperature thermistor (RT11)<br>Indoor coil thermistor (RT12)</td><td colspan="2">Measure the resistance with a tester.<br>(Part temperature 10°C ~ 30°C)<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>MSC-A07/A09/A12WV<br>8kΩ ~ 20kΩ</td><td>Open or short-circuit</td></tr></table></td><td></td></tr>
<tr><td rowspan="2">Indoor fan motor (MF)<br>INNER FUSE<br>136±3°C<br>CUT OFF</td><td>Motor part</td><td>Measure the resistance between the terminals with a tester.<br>(Coil wiring temperature10°C ~ 30°C)<table><tr><th rowspan="2">Color of lead wire</th><th colspan="2">Normal</th><th rowspan="2">Abnormal</th></tr><tr><th>MSC-A07/A09WV</th><th>MSC-A12WV</th></tr><tr><td>WHT-BLK</td><td>396 ~ 430Ω</td><td>303 ~ 329Ω</td><td rowspan="2">Open or short-circuit</td></tr><tr><td>BLK-RED</td><td>320 ~ 348Ω</td><td>287 ~ 311Ω</td></tr></table></td><td rowspan="2"> 
</td></tr>
<tr><td>Sensor part</td><td>Measure the voltage Power ON.<table><tr><th rowspan="2">Color of lead wire</th><th>Normal</th><th rowspan="2">Abnormal</th></tr><tr><th>MSC-A07/A09/A12WV</th></tr><tr><td>BRN-YLW</td><td>4.5 ~ 5.5V</td><td rowspan="2">Remain 0V or 5V</td></tr><tr><td>YLW-GRY</td><td>(When fan revolved one time)<br>0V→5V→0V<br>(Approx.)</td></tr></table></td></tr>
<tr><td>Vane motor<br>(MV)</td><td colspan="2">Measure the resistance between the terminals with a tester.<br>(Part temperature10°C ~ 30°C)<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>MSC-A07/A09/A12WV<br>240 ~ 260Ω</td><td>Open or short-circuit</td></tr></table></td><td> 
</td></tr>
</table>

**MU-A07WV -E1 MUH-A07WV -E1**
**MU-A09WV -E1 MUH-A09WV -E1**
**MU-A12WV -E1 MUH-A12WV -E1**

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Defrost thermistor (RT63)<br><br><MUH-A07/A09/A12WV></td><td>Measure the resistance with a tester.<br>(Part temperature –10°C ~ 40°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>MUH-A07/A09/A12WV</td><td rowspan="2">Open or short-circuit</td></tr>
<tr><td>5kΩ ~ 60kΩ</td></tr>
</table></td><td></td></tr>
<tr><td>Compressor (MC)<br>INNER PROTECTOR<br>MU-A07/A09WV<br>MUH-A07/A09WV<br>150± 5°C OPEN<br>90±10°C CLOSE<br><br>MU-A12WV<br>MUH-A12WV<br>155± 5°C OPEN<br>90±10°C CLOSE</td><td>Measure the resistance between the terminals with a tester.<br>(Coil wiring temperature –10°C ~ 40°C)
<table>
<tr><th></th><th colspan="3">Normal</th><th>Abnormal</th></tr>
<tr><th></th><th>MU-A07WV</th><th>MU-A09WV</th><th>MU-A12WV</th><th></th></tr>
<tr><td>C-R</td><td>3.41~4.18Ω</td><td>2.99~3.67Ω</td><td>2.46~3.01Ω</td><td rowspan="2">Open or short-circuit</td></tr>
<tr><td>C-S</td><td>5.41~6.63Ω</td><td>4.02~4.92Ω</td><td>2.96~3.63Ω</td></tr>
</table>
<table>
<tr><th></th><th colspan="3">Normal</th><th>Abnormal</th></tr>
<tr><th></th><th>MUH-A07WV</th><th>MUH-A09WV</th><th>MUH-A12WV</th><th></th></tr>
<tr><td>C-R</td><td>3.41~4.18Ω</td><td>2.99~3.67Ω</td><td>2.46~3.01Ω</td><td rowspan="2">Open or short-circuit</td></tr>
<tr><td>C-S</td><td>5.41~6.63Ω</td><td>4.02~4.92Ω</td><td>2.96~3.63Ω</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Outdoor fan motor INNER (MF)<br>INNER FUSE<br>163± 3/2 °C<br>CUT OFF</td><td>Measure the resistance between the terminals with a tester.<br>(Coil wiring temperature –10°C ~ 40°C)
<table>
<tr><th rowspan="2">Color of lead wire</th><th colspan="2">Normal</th><th rowspan="2">Abnormal</th></tr>
<tr><th>MU-A07/A09WV</th><th>MU-A12WV</th></tr>
<tr><td>WHT-BLK</td><td>311~381Ω</td><td>265~325Ω</td><td rowspan="2">Open or short-circuit</td></tr>
<tr><td>BLK-RED</td><td>282~347Ω</td><td>293~359Ω</td></tr>
</table>
<table>
<tr><th rowspan="2">Color of lead wire</th><th colspan="2">Normal</th><th rowspan="2">Abnormal</th></tr>
<tr><th>MUH-A07WV</th><th>MUH-A09/A12WV</th></tr>
<tr><td>WHT-BLK</td><td>311~381Ω</td><td>265~325Ω</td><td rowspan="2">Open or short-circuit</td></tr>
<tr><td>BLK-RED</td><td>282~347Ω</td><td>293~359Ω</td></tr>
</table></td><td> 
</td></tr>
</table>

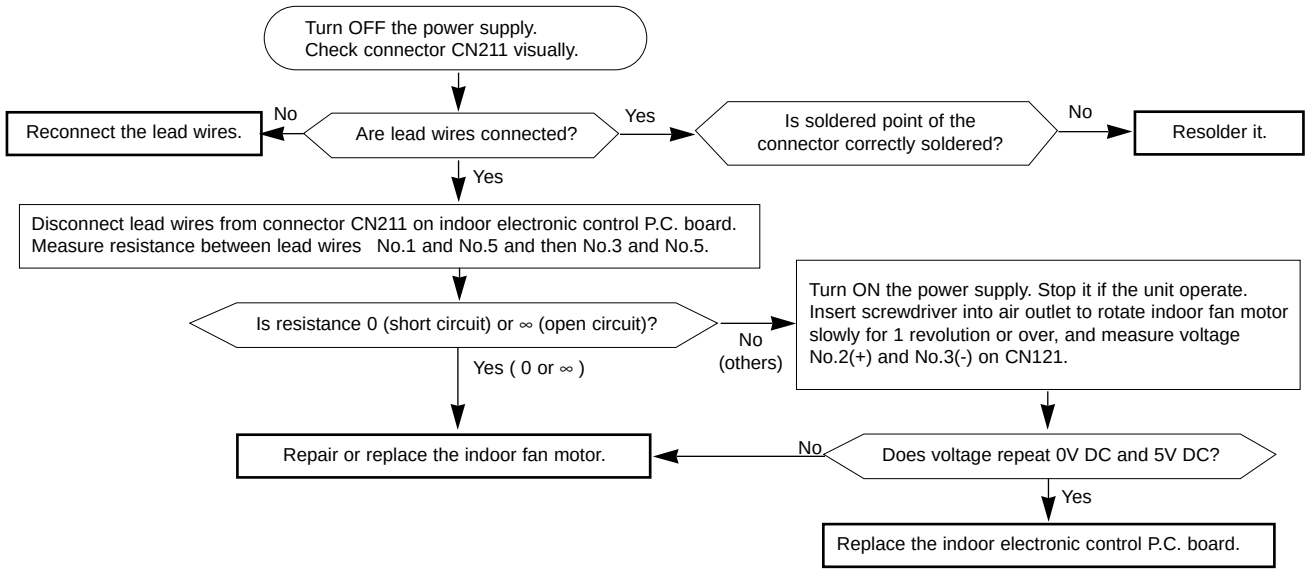
(P) INNER PROTECTOR

## MUX-A10WV -E1 MUX-A19WV -E1 MUX-A20WV -E1 MUX-A25WV -E1 MUX-A26WV -E1

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Compressor<br>(MC, MC1, MC2)<br>INNER PROTECTOR<br>150°C OPEN<br>90°C CLOSE</td><td>
Measure the resistance between the terminals with a tester.<br>(Coil wiring temperature-10°C ~ 40°C)
<table>
<tr><td rowspan="2"></td><td colspan="5">Normal</td><td rowspan="2">Abnormal</td></tr>
<tr><td>MUX-A10WV</td><td colspan="2">MUX-A19WV</td><td colspan="2">MUX-A20WV</td></tr>
<tr><td></td><td>RN092VHSHT</td><td>RN145VHSHT</td><td>RN092VHSHT</td><td>RN099VHSHT</td><td>RN125VHSHT</td><td>Open or short-circuit</td></tr>
<tr><td>C-R</td><td>3.41 ~ 4.18Ω</td><td>2.14 ~ 2.63Ω</td><td>3.41 ~ 4.18Ω</td><td>2.99 ~ 3.67Ω</td><td>2.52 ~ 3.09Ω</td><td></td></tr>
<tr><td>C-S</td><td>5.41 ~ 6.63Ω</td><td>3.35 ~ 4.11Ω</td><td>5.41 ~ 6.63Ω</td><td>4.02 ~ 4.39Ω</td><td>5.04 ~ 6.18Ω</td><td></td></tr>
</table>
<table>
<tr><td rowspan="2"></td><td colspan="4">Normal</td><td rowspan="2">Abnormal</td></tr>
<tr><td colspan="2">MUX-A25WV</td><td colspan="2">MUX-A26WV</td></tr>
<tr><td></td><td>RN145VHSHT</td><td>RN145VHSHT</td><td>RN145VHSHT</td><td>RN125VHSHT</td><td>Open or short-circuit</td></tr>
<tr><td>C-R</td><td>2.14 ~ 2.63Ω</td><td>2.14 ~ 2.63Ω</td><td>2.14 ~ 2.63Ω</td><td>2.52 ~ 3.09Ω</td><td></td></tr>
<tr><td>C-S</td><td>3.35 ~ 4.11Ω</td><td>3.35 ~ 4.11Ω</td><td>3.35 ~ 4.11Ω</td><td>5.04 ~ 6.18Ω</td><td></td></tr>
</table>
</td><td> 
</td></tr>
<tr><td>Outdoor fan motor<br>(MF, MF61)<br>INNER FUSE<br>MUX-A10WV<br>145°C OPEN<br><br>INNER PROTECTOR<br>MUX-A19/A20/A25/A26WV<br>145±8°C OPEN</td><td>
Measure the resistance between the terminals with a tester.<br>(Coil wiring temperature -10°C ~ 40°C)
<table>
<tr><td rowspan="2"></td><td colspan="3">Normal</td><td rowspan="2">Abnormal</td></tr>
<tr><td>MUX-A10WV</td><td>MUX-A19WV</td><td>MUX-A20WV</td></tr>
<tr><td>WHT-BLK</td><td>196 ~ 241Ω</td><td>79 ~ 98Ω</td><td>79 ~ 98Ω</td><td>Open or short-circuit</td></tr>
<tr><td>BLK-RED</td><td>208 ~ 246Ω</td><td>129 ~ 158Ω</td><td>129 ~ 158Ω</td><td></td></tr>
</table>
Measure the resistance between the terminals with a tester.<br>(Coil wiring temperature -10°C ~ 40°C)
<table>
<tr><td rowspan="2"></td><td colspan="2">Normal</td><td rowspan="2">Abnormal</td></tr>
<tr><td>MUX-A25WV</td><td>MUX-A26WV</td></tr>
<tr><td>WHT-BLK</td><td>79 ~ 98Ω</td><td>69 ~ 85Ω</td><td>Open or short-circuit</td></tr>
<tr><td>BLK-RED</td><td>129 ~ 158Ω</td><td>70 ~ 86Ω</td><td></td></tr>
</table>
</td><td>MUX-A10WV<br> 
<br>MUX-A19/A20/A25/A26WV<br> 
</td></tr>
<tr><td>Solenoid coil<br>(21R, 21RA, 21RB, 21R1, 21R2, 21R3, 21R4)</td><td>
Measure the resistance with a tester. (Part temperature -10°C ~ 40°C)
<table>
<tr><td>Normal</td><td>Abnormal</td></tr>
<tr><td>1410 ~ 1730Ω</td><td>Open or short-circuit</td></tr>
</table>
</td><td></td></tr>
</table>

**When OPERATION INDICATOR lamp flashes 3-time.**
**Indoor fan motor doesn't operate.**

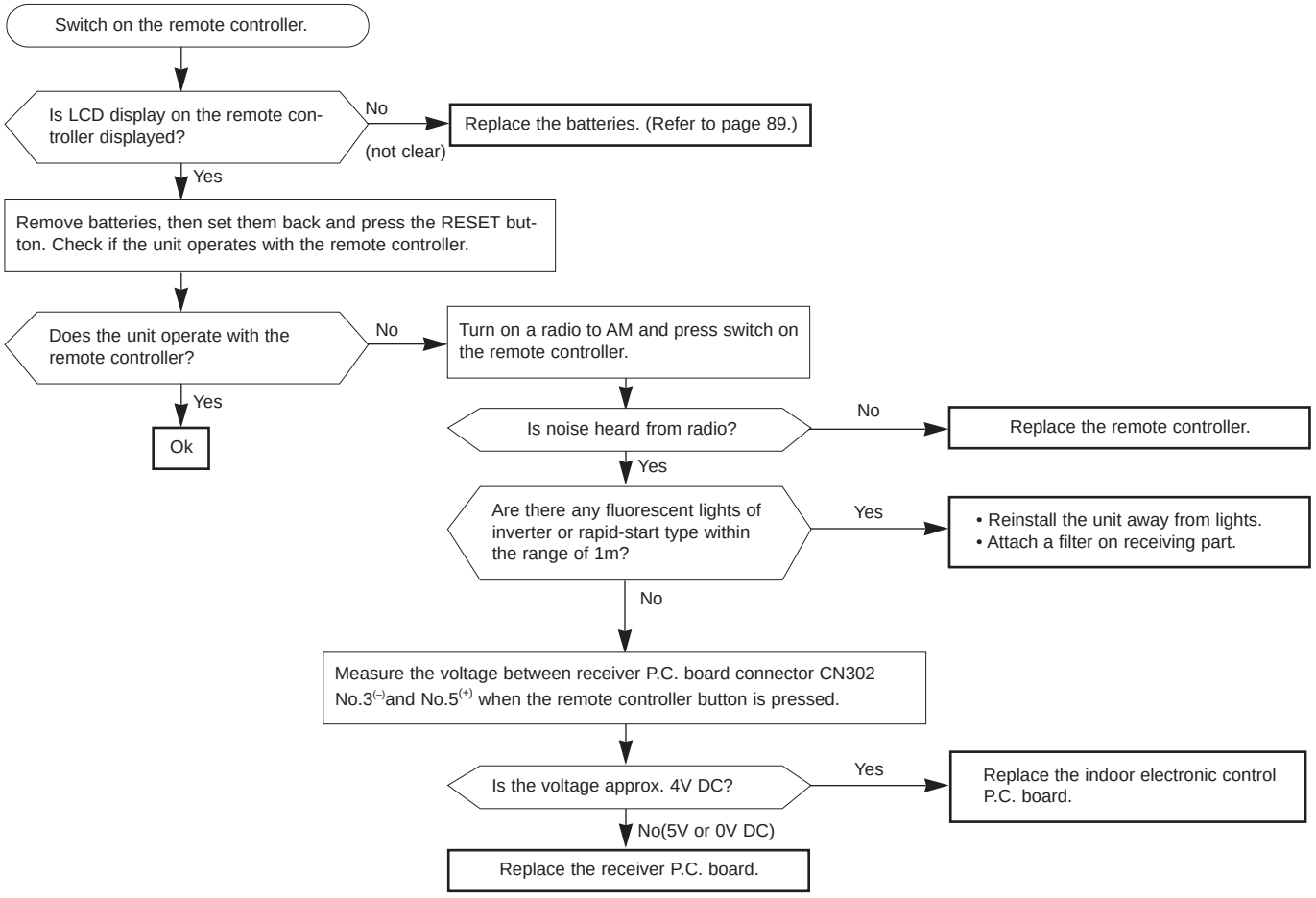
### Ⓐ Check of indoor fan motor


Turn OFF the power supply.
Check connector CN211 visually.
Are lead wires connected?
No
Reconnect the lead wires.
Yes
Is soldered point of the connector correctly soldered?
No
Resolder it.
Yes
Disconnect lead wires from connector CN211 on indoor electronic control P.C. board.
Measure resistance between lead wires No.1 and No.5 and then No.3 and No.5.
Is resistance 0 (short circuit) or ∞ (open circuit)?
No (others)
Turn ON the power supply. Stop it if the unit operate.
Insert screwdriver into air outlet to rotate indoor fan motor slowly for 1 revolution or over, and measure voltage No.2(+) and No.3(-) on CN121.
Yes ( 0 or ∞ )
Repair or replace the indoor fan motor.
No
Does voltage repeat 0V DC and 5V DC?
Yes
Replace the indoor electronic control P.C. board.

**Indoor unit operates by pressing the EMERGENCY OPERATION switch, but doesn't operate with the remote controller.**

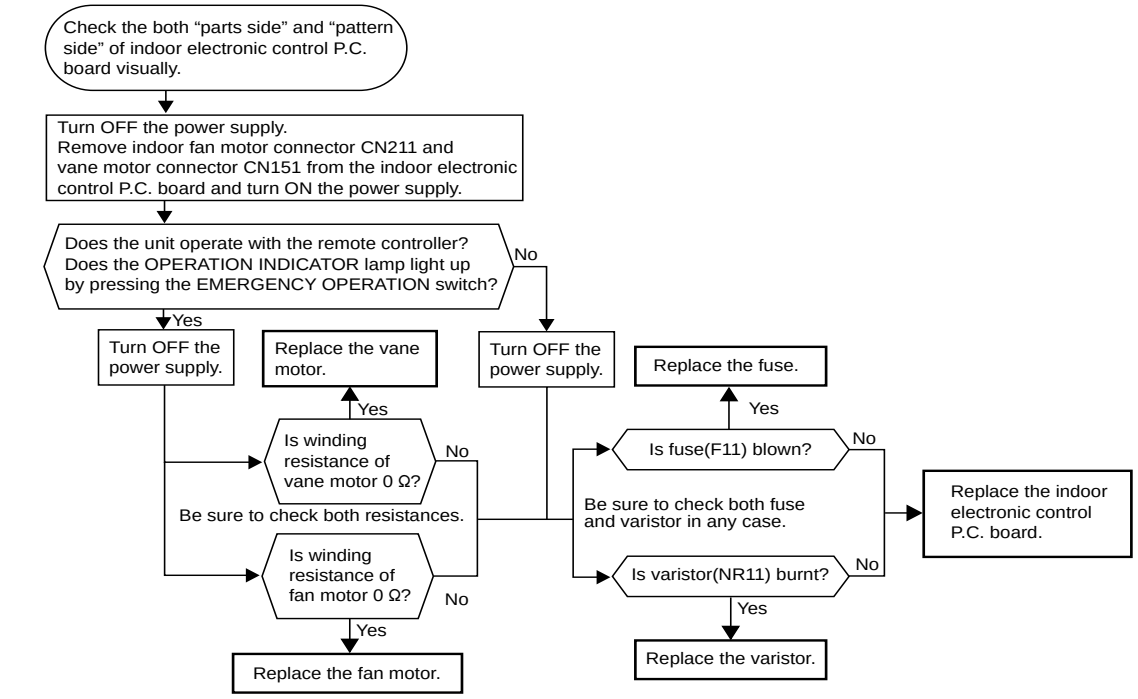
## ⒷCheck of remote controller and receiver P.C. board

※Check the remote controller is exclusive for this air conditioner.


Switch on the remote controller.
Is LCD display on the remote controller displayed?
No
(not clear)
Replace the batteries. (Refer to page 89.)
Yes
Remove batteries, then set them back and press the RESET button. Check if the unit operates with the remote controller.
Does the unit operate with the remote controller?
No
Turn on a radio to AM and press switch on the remote controller.
Yes
Ok
Is noise heard from radio?
No
Replace the remote controller.
Yes
Are there any fluorescent lights of inverter or rapid-start type within the range of 1m?
Yes
• Reinstall the unit away from lights.
• Attach a filter on receiving part.
No
Measure the voltage between receiver P.C. board connector CN302 No.3(-)and No.5(+) when the remote controller button is pressed.
Is the voltage approx. 4V DC?
Yes
Replace the indoor electronic control P.C. board.
No(5V or 0V DC)
Replace the receiver P.C. board.

**The unit doesn't operate with the remote controller.**
**Also, the OPERATION INDICATOR lamp doesn't light up by pressing the EMERGENCY OPERATION switch.**

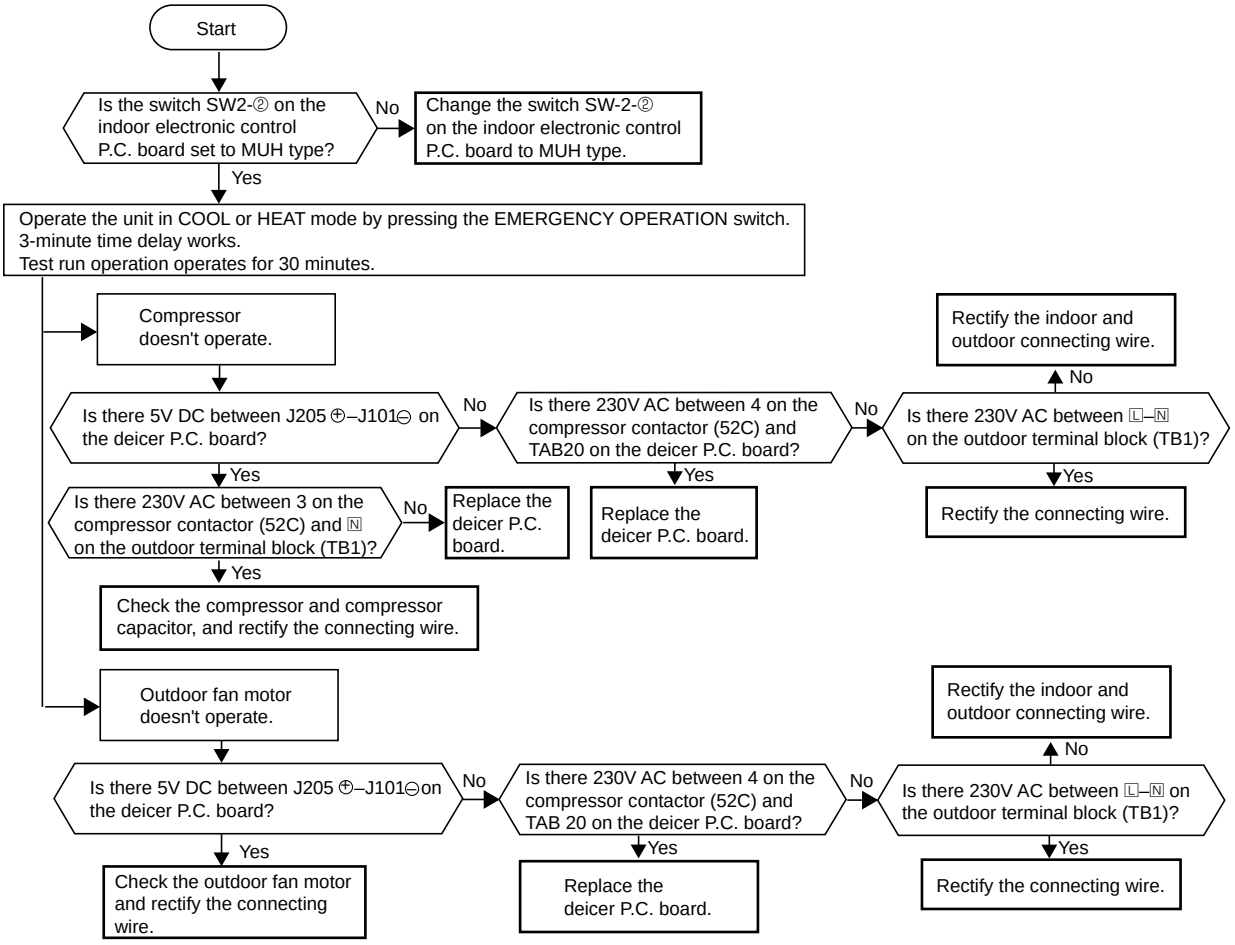
## ⒸCheck of indoor electronic control P.C. board


Check the both "parts side" and "pattern side" of indoor electronic control P.C. board visually.
Turn OFF the power supply.
Remove indoor fan motor connector CN211 and vane motor connector CN151 from the indoor electronic control P.C. board and turn ON the power supply.
Does the unit operate with the remote controller?
Does the OPERATION INDICATOR lamp light up by pressing the EMERGENCY OPERATION switch?
No
Yes
Turn OFF the power supply.
Replace the vane motor.
Turn OFF the power supply.
Replace the fuse.
Yes
Yes
Is winding resistance of vane motor 0 Ω?
No
Is fuse(F11) blown?
No
Be sure to check both resistances.
Be sure to check both fuse and varistor in any case.
Replace the indoor electronic control P.C. board.
Is winding resistance of fan motor 0 Ω?
No
Is varistor(NR11) burnt?
No
Yes
Yes
Replace the varistor.
Yes
Replace the fan motor.

**Compressor and / or outdoor fan motor doesn't operate.**

## Ⓓ Check of outdoor unit

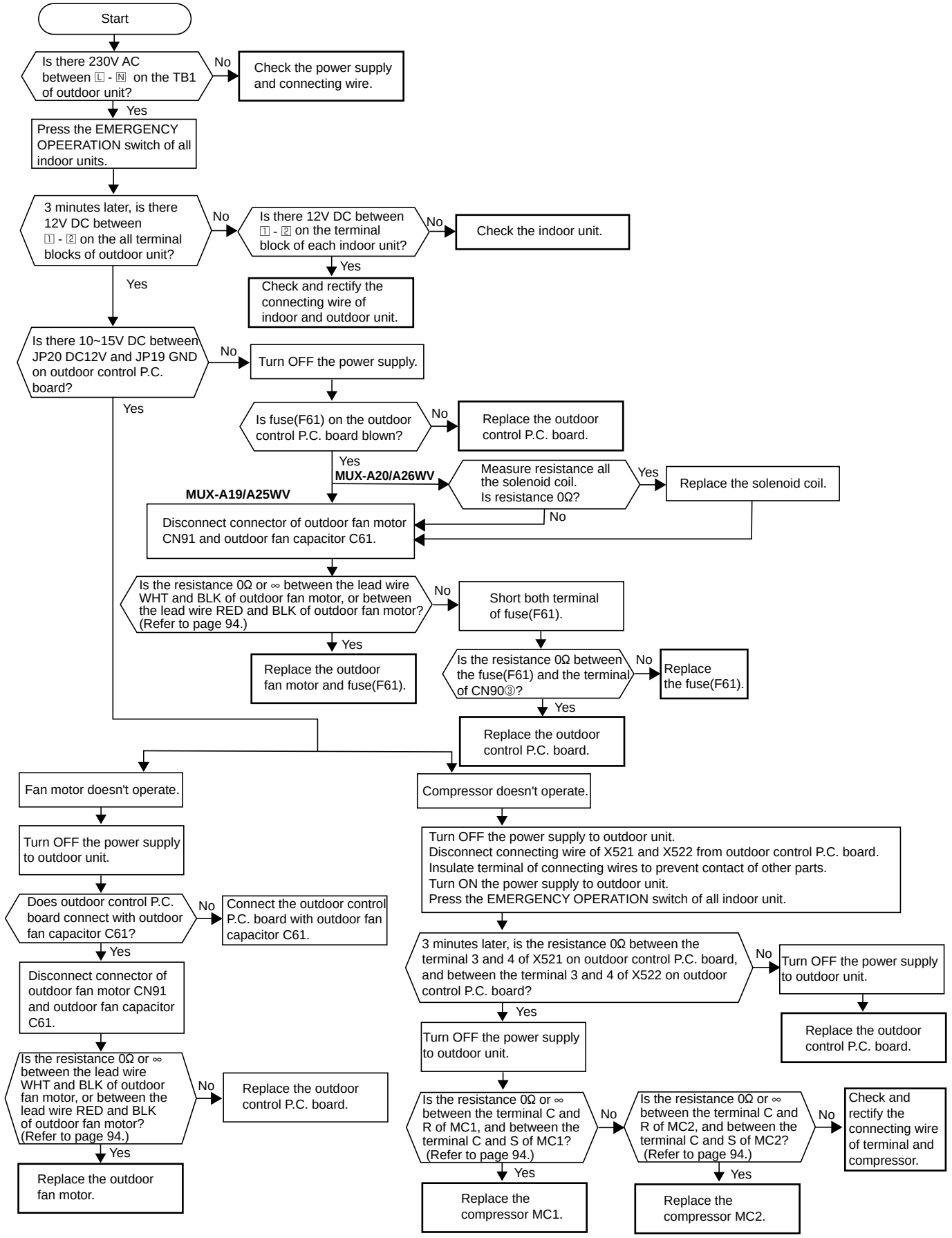
**<MUH-A07/A09/A12WV>**


Start
Is the switch SW2-② on the indoor electronic control P.C. board set to MUH type?
No
Change the switch SW-2-② on the indoor electronic control P.C. board to MUH type.
Yes
Operate the unit in COOL or HEAT mode by pressing the EMERGENCY OPERATION switch.
3-minute time delay works.
Test run operation operates for 30 minutes.
Compressor doesn't operate.
Is there 5V DC between J205 ⊕–J101⊖ on the deicer P.C. board?
No
Is there 230V AC between 4 on the compressor contactor (52C) and TAB20 on the deicer P.C. board?
No
Is there 230V AC between L–N on the outdoor terminal block (TB1)?
No
Rectify the indoor and outdoor connecting wire.
Yes
Rectify the connecting wire.
Yes
Replace the deicer P.C. board.
Is there 230V AC between 3 on the compressor contactor (52C) and N on the outdoor terminal block (TB1)?
No
Replace the deicer P.C. board.
Yes
Check the compressor and compressor capacitor, and rectify the connecting wire.
Outdoor fan motor doesn't operate.
Is there 5V DC between J205 ⊕–J101⊖ on the deicer P.C. board?
No
Is there 230V AC between 4 on the compressor contactor (52C) and TAB 20 on the deicer P.C. board?
No
Is there 230V AC between L–N on the outdoor terminal block (TB1)?
No
Rectify the indoor and outdoor connecting wire.
Yes
Replace the deicer P.C. board.
Yes
Rectify the connecting wire.
Yes
Check the outdoor fan motor and rectify the connecting wire.

**Compressor and / or outdoor fan doesn't operate.**

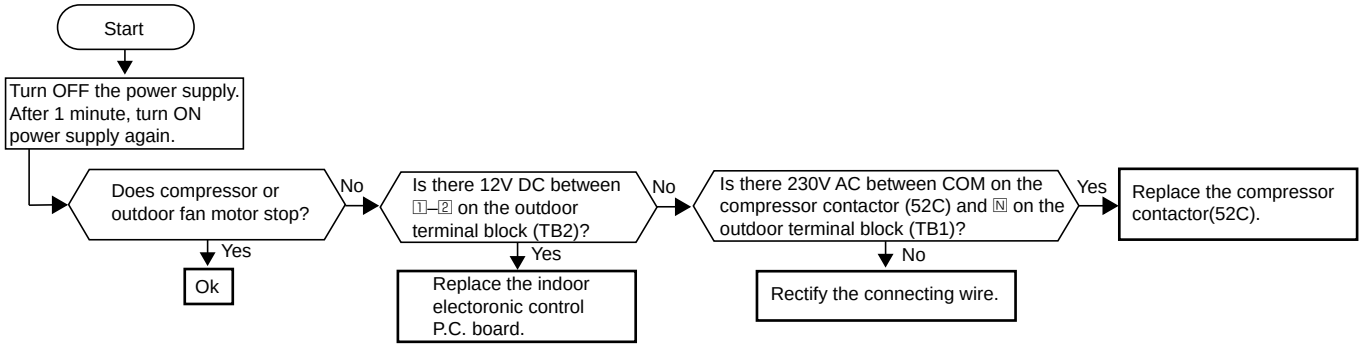
## Ⓓ Check of outdoor unit

**<MUX-A19/A20/A25/A26WV>**


Start
Is there 230V AC between L - N on the TB1 of outdoor unit?
No
Check the power supply and connecting wire.
Yes
Press the EMERGENCY OPEERATION switch of all indoor units.
3 minutes later, is there 12V DC between 1 - 2 on the all terminal blocks of outdoor unit?
No
Is there 12V DC between 1 - 2 on the terminal block of each indoor unit?
No
Check the indoor unit.
Yes
Check and rectify the connecting wire of indoor and outdoor unit.
Yes
Is there 10~15V DC between JP20 DC12V and JP19 GND on outdoor control P.C. board?
No
Turn OFF the power supply.
Yes
Is fuse(F61) on the outdoor control P.C. board blown?
No
Replace the outdoor control P.C. board.
Yes
MUX-A20/A26WV
Measure resistance all the solenoid coil. Is resistance 0Ω?
Yes
Replace the solenoid coil.
No
MUX-A19/A25WV
Disconnect connector of outdoor fan motor CN91 and outdoor fan capacitor C61.
Is the resistance 0Ω or ∞ between the lead wire WHT and BLK of outdoor fan motor, or between the lead wire RED and BLK of outdoor fan motor? (Refer to page 94.)
No
Short both terminal of fuse(F61).
Yes
Replace the outdoor fan motor and fuse(F61).
Is the resistance 0Ω between the fuse(F61) and the terminal of CN90③?
No
Replace the fuse(F61).
Yes
Replace the outdoor control P.C. board.
Fan motor doesn't operate.
Turn OFF the power supply to outdoor unit.
Does outdoor control P.C. board connect with outdoor fan capacitor C61?
No
Connect the outdoor control P.C. board with outdoor fan capacitor C61.
Yes
Disconnect connector of outdoor fan motor CN91 and outdoor fan capacitor C61.
Is the resistance 0Ω or ∞ between the lead wire WHT and BLK of outdoor fan motor, or between the lead wire RED and BLK of outdoor fan motor? (Refer to page 94.)
No
Replace the outdoor control P.C. board.
Yes
Replace the outdoor fan motor.
Compressor doesn't operate.
Turn OFF the power supply to outdoor unit.
Disconnect connecting wire of X521 and X522 from outdoor control P.C. board.
Insulate terminal of connecting wires to prevent contact of other parts.
Turn ON the power supply to outdoor unit.
Press the EMERGENCY OPERATION switch of all indoor unit.
3 minutes later, is the resistance 0Ω between the terminal 3 and 4 of X521 on outdoor control P.C. board, and between the terminal 3 and 4 of X522 on outdoor control P.C. board?
No
Turn OFF the power supply to outdoor unit.
Replace the outdoor control P.C. board.
Yes
Turn OFF the power supply to outdoor unit.
Is the resistance 0Ω or ∞ between the terminal C and R of MC1, and between the terminal C and S of MC1? (Refer to page 94.)
No
Is the resistance 0Ω or ∞ between the terminal C and R of MC2, and between the terminal C and S of MC2? (Refer to page 94.)
No
Check and rectify the connecting wire of terminal and compressor.
Yes
Replace the compressor MC1.
Yes
Replace the compressor MC2.

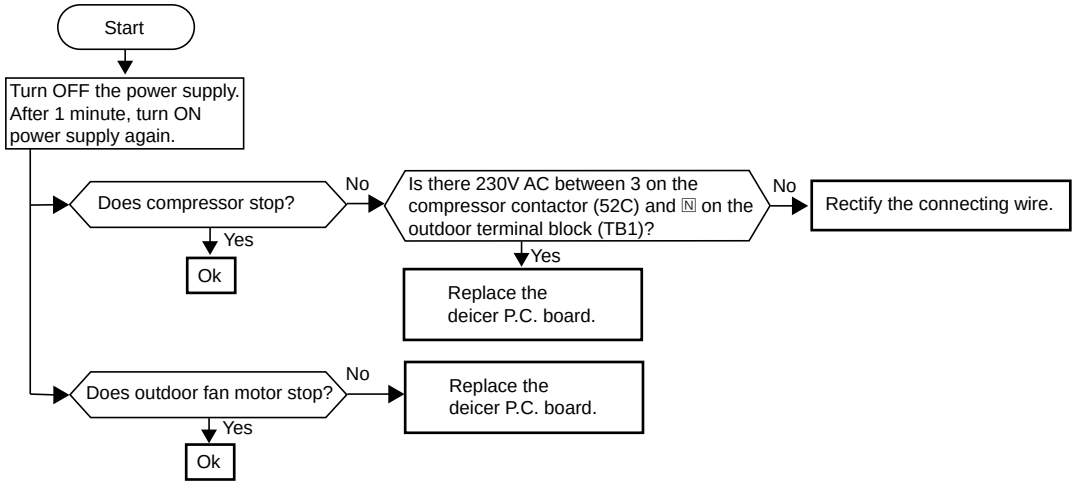
**Compressor and / or outdoor fan motor doesn't stop.**

## Ⓔ Check of outdoor unit <MU-A07/A09/A12WV>


Start
Turn OFF the power supply. After 1 minute, turn ON power supply again.
Does compressor or outdoor fan motor stop?
No
Is there 12V DC between 1–2 on the outdoor terminal block (TB2)?
No
Is there 230V AC between COM on the compressor contactor (52C) and N on the outdoor terminal block (TB1)?
Yes
Replace the compressor contactor(52C).
Yes
Ok
Yes
Replace the indoor electoronic control P.C. board.
No
Rectify the connecting wire.

**Compressor and / or outdoor fan motor doesn't stop.**

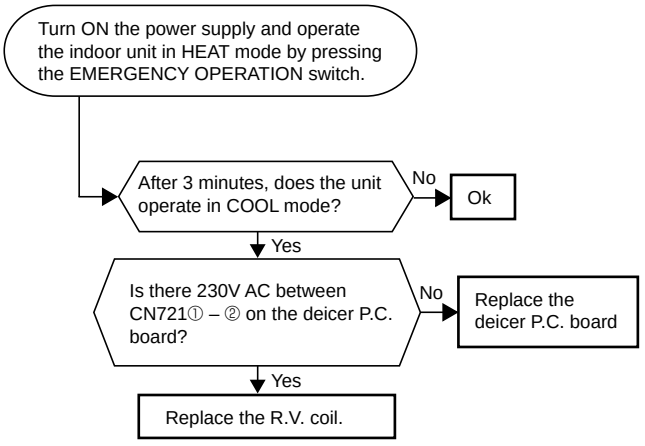
## Ⓔ Check of outdoor unit <MUH-A07/A09/A12WV>



**Unit operates COOL mode even if it is set to HEAT mode.**

※ First, measure the resistance of R.V. coil to confirm it is disconnected or is not short-circuit.

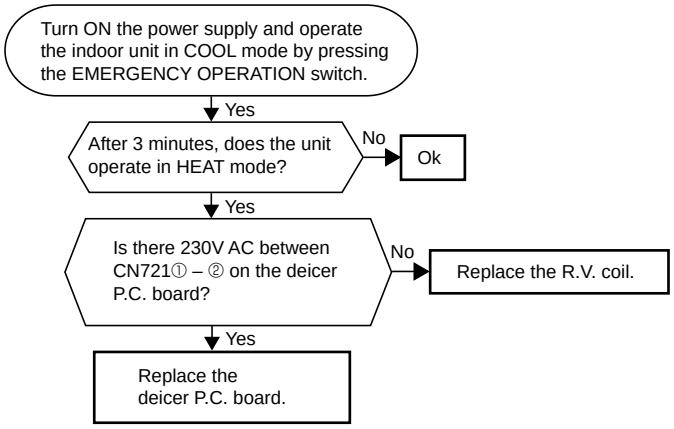
## Ⓕ Check of R.V. coil <MUH-A07/A09/A12WV>


Turn ON the power supply and operate the indoor unit in HEAT mode by pressing the EMERGENCY OPERATION switch.
After 3 minutes, does the unit operate in COOL mode?
No
Ok
Yes
Is there 230V AC between CN721① – ② on the deicer P.C. board?
No
Replace the deicer P.C. board
Yes
Replace the R.V. coil.

**Unit operates HEAT mode even if it is set to COOL mode.**

※ First, measure the resistance of R.V. coil to confirm it is disconnected or is not short-circuit.

## Ⓕ Check of R.V. coil <MUH-A07/A09/A12WV>

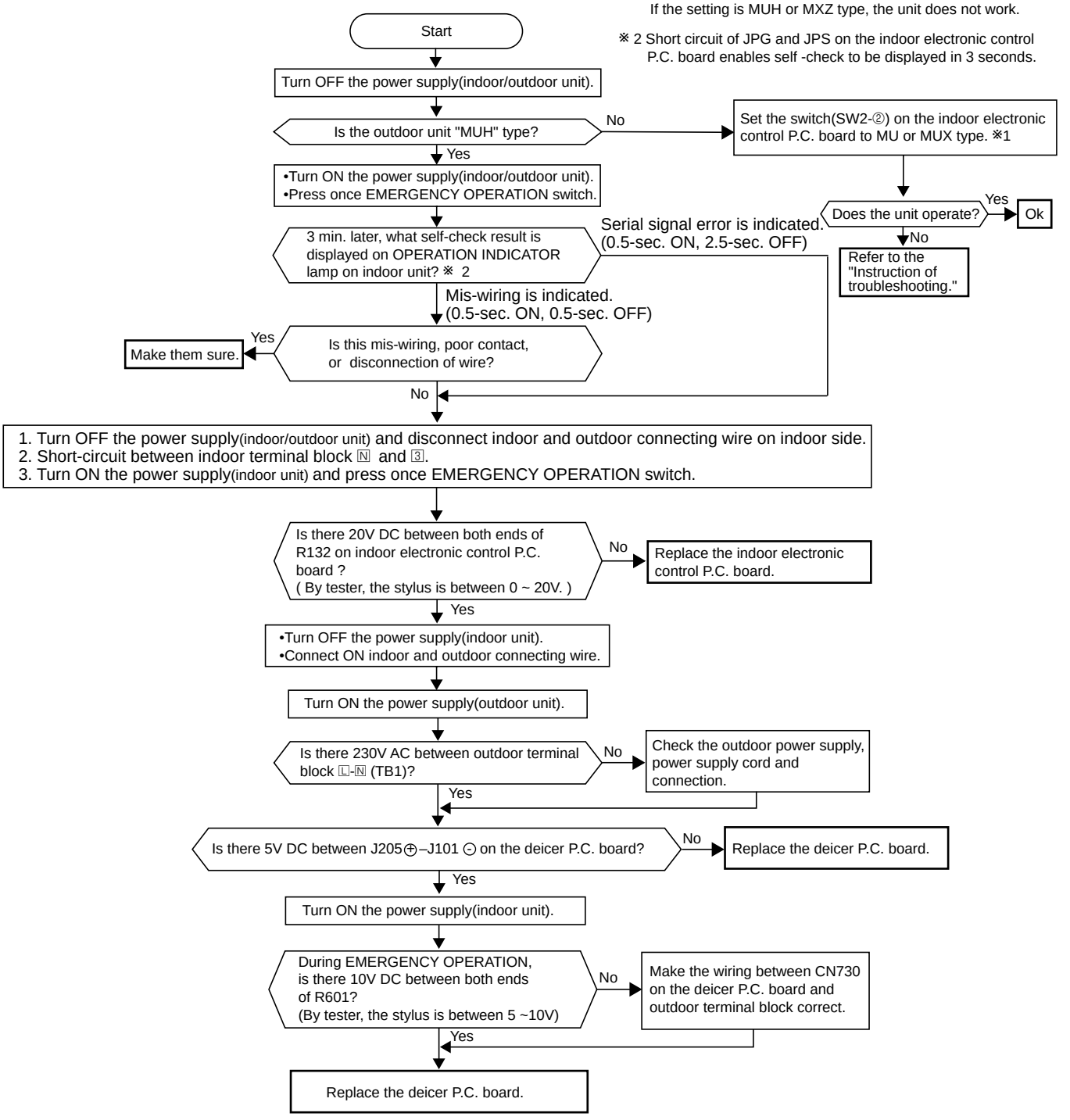

Turn ON the power supply and operate the indoor unit in COOL mode by pressing the EMERGENCY OPERATION switch.
Yes
After 3 minutes, does the unit operate in HEAT mode?
No
Ok
Yes
Is there 230V AC between CN721① – ② on the deicer P.C. board?
No
Replace the R.V. coil.
Yes
Replace the deicer P.C. board.

**When OPERATION INDICATOR lamp flashes 0.5-second intervals or 1-time.**
**Outdoor unit does not operate.**

## Ⓖ How to check mis-wiring and serial signal error <MUH-A07/A09/A12WV>

※ 1 Set the switch(SW2-②) on indoor electronic control P.C. board to MU or MUX type, when the outdoor unit is MU or MUX type. If the setting is MUH or MXZ type, the unit does not work.

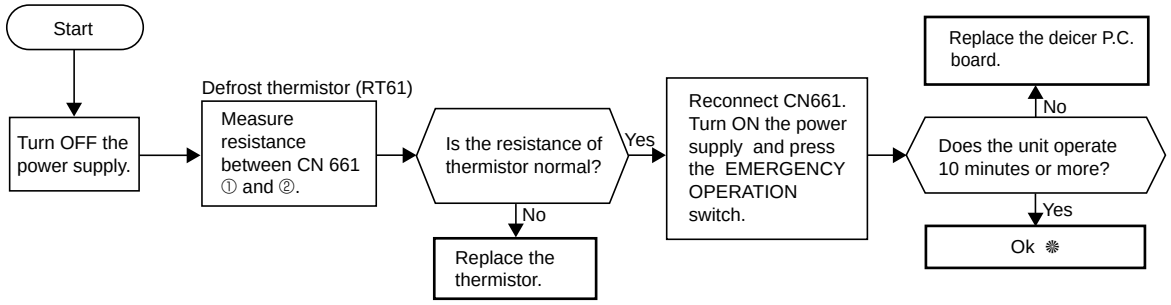
※ 2 Short circuit of JPG and JPS on the indoor electronic control P.C. board enables self -check to be displayed in 3 seconds.


Start
Turn OFF the power supply(indoor/outdoor unit).
Is the outdoor unit "MUH" type?
No
Set the switch(SW2-②) on the indoor electronic control P.C. board to MU or MUX type. ※1
Yes
•Turn ON the power supply(indoor/outdoor unit).
•Press once EMERGENCY OPERATION switch.
Does the unit operate?
Yes
Ok
No
Refer to the "Instruction of troubleshooting."
3 min. later, what self-check result is displayed on OPERATION INDICATOR lamp on indoor unit? ※ 2
Serial signal error is indicated. (0.5-sec. ON, 2.5-sec. OFF)
Mis-wiring is indicated. (0.5-sec. ON, 0.5-sec. OFF)
Is this mis-wiring, poor contact, or disconnection of wire?
Yes
Make them sure.
No
1. Turn OFF the power supply(indoor/outdoor unit) and disconnect indoor and outdoor connecting wire on indoor side.
2. Short-circuit between indoor terminal block N and 3.
3. Turn ON the power supply(indoor unit) and press once EMERGENCY OPERATION switch.
Is there 20V DC between both ends of R132 on indoor electronic control P.C. board ? ( By tester, the stylus is between 0 ~ 20V. )
No
Replace the indoor electronic control P.C. board.
Yes
•Turn OFF the power supply(indoor unit).
•Connect ON indoor and outdoor connecting wire.
Turn ON the power supply(outdoor unit).
Is there 230V AC between outdoor terminal block L-N (TB1)?
No
Check the outdoor power supply, power supply cord and connection.
Yes
Is there 5V DC between J205⊕–J101 ⊖ on the deicer P.C. board?
No
Replace the deicer P.C. board.
Yes
Turn ON the power supply(indoor unit).
During EMERGENCY OPERATION, is there 10V DC between both ends of R601? (By tester, the stylus is between 5 ~10V)
No
Make the wiring between CN730 on the deicer P.C. board and outdoor terminal block correct.
Yes
Replace the deicer P.C. board.

**When OPERATION INDICATOR lamp flashes 6-time.**
**Thermistors in the outdoor unit are abnormal.**

## Ⓗ Check of outdoor thermistor

**<MUH-A07/A09/A12WV>**


Start
Turn OFF the power supply.
Defrost thermistor (RT61)
Measure resistance between CN 661 ① and ②.
Is the resistance of thermistor normal?
Yes
No
Replace the thermistor.
Reconnect CN661. Turn ON the power supply and press the EMERGENCY OPERATION switch.
Does the unit operate 10 minutes or more?
No
Yes
Replace the deicer P.C. board.
Ok ❋

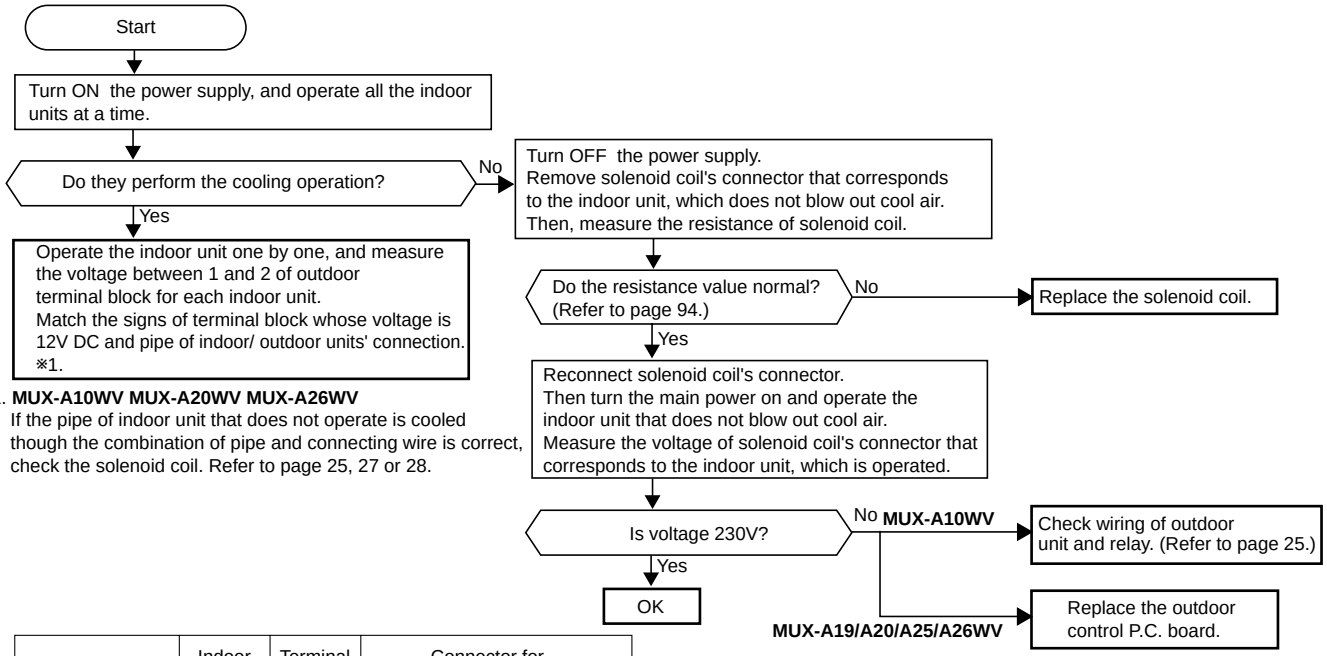
❋ Defective contact of the connector is considered.

**Indoor unit operate. But indoor unit doesn't blow out cool air.**

## Ⓘ Check of indoor/outdoor units' connection and outdoor unit

**<MUX-A10/A19/A20/A25/A26WV>**

※ In case of troubleshooting, be sure to operate indoor unit by emergency operation switch.


Start
Turn ON the power supply, and operate all the indoor units at a time.
Do they perform the cooling operation?
No
Yes
Operate the indoor unit one by one, and measure the voltage between 1 and 2 of outdoor terminal block for each indoor unit.
Match the signs of terminal block whose voltage is 12V DC and pipe of indoor/ outdoor units' connection.
※1.
Turn OFF the power supply.
Remove solenoid coil's connector that corresponds to the indoor unit, which does not blow out cool air.
Then, measure the resistance of solenoid coil.
Do the resistance value normal? (Refer to page 94.)
No
Replace the solenoid coil.
Yes
Reconnect solenoid coil's connector.
Then turn the main power on and operate the indoor unit that does not blow out cool air.
Measure the voltage of solenoid coil's connector that corresponds to the indoor unit, which is operated.
Is voltage 230V?
No MUX-A10WV
Check wiring of outdoor unit and relay. (Refer to page 25.)
Yes
OK
MUX-A19/A20/A25/A26WV
Replace the outdoor control P.C. board.

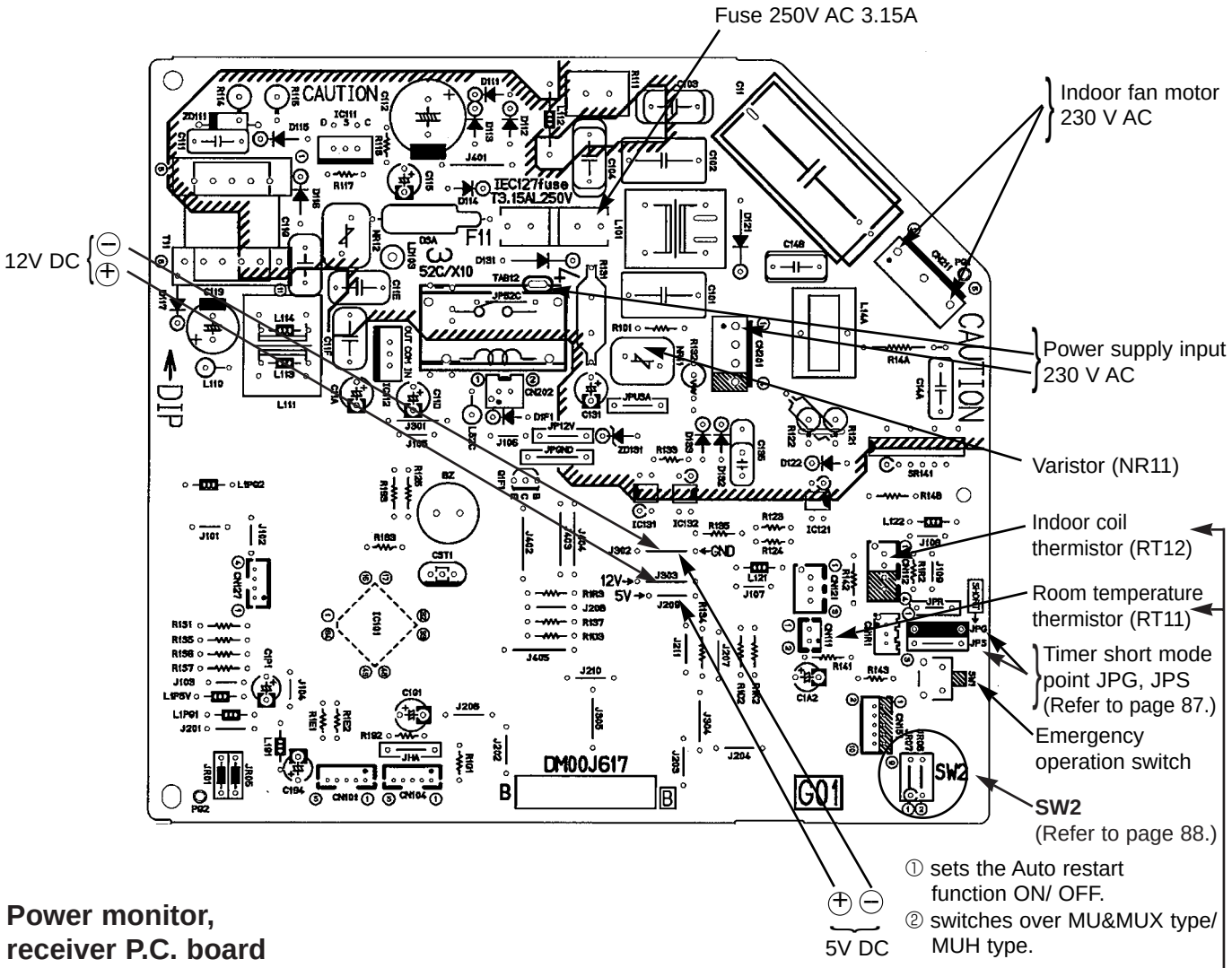
※1. **MUX-A10WV MUX-A20WV MUX-A26WV**
If the pipe of indoor unit that does not operate is cooled though the combination of pipe and connecting wire is correct, check the solenoid coil. Refer to page 25, 27 or 28.

| Model | Indoor unit | Terminal block | Connector for solenoid coil control | |
|---|---|---|---|---|
| MUX-A10WV | A | TB2 | 21R1 | 21R |
| | B | TB2 | 21R2 | |
| MUX-A20WV | B | TB3 | 21R3-CN85 | 21RB-CN81 |
| | C | TB4 | 21R4-CN86 | |
| MUX-A26WV | A | TB2 | 21R1-CN83 | 21RA-CN82 |
| | B | TB3 | 21R2-CN84 | |
| | C | TB4 | 21R3-CN85 | 21RB-CN81 |
| | D | TB5 | 21R4-CN86 | |

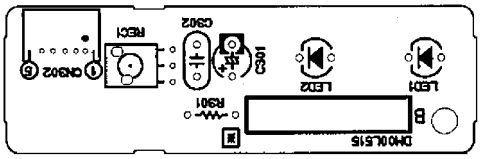
## TEST POINT DIAGRAM AND VOLTAGE

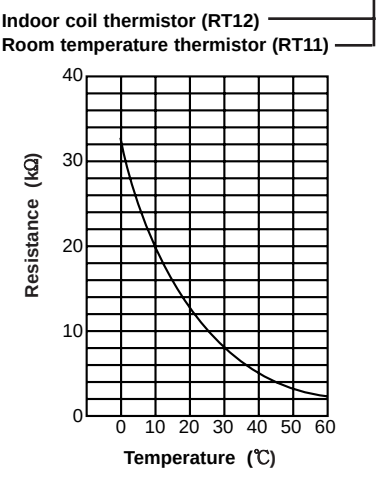
**MSC-A07WV -** E1
**MSC-A09WV -** E1
**MSC-A12WV -** E1

**Indoor electronic control P.C. board**

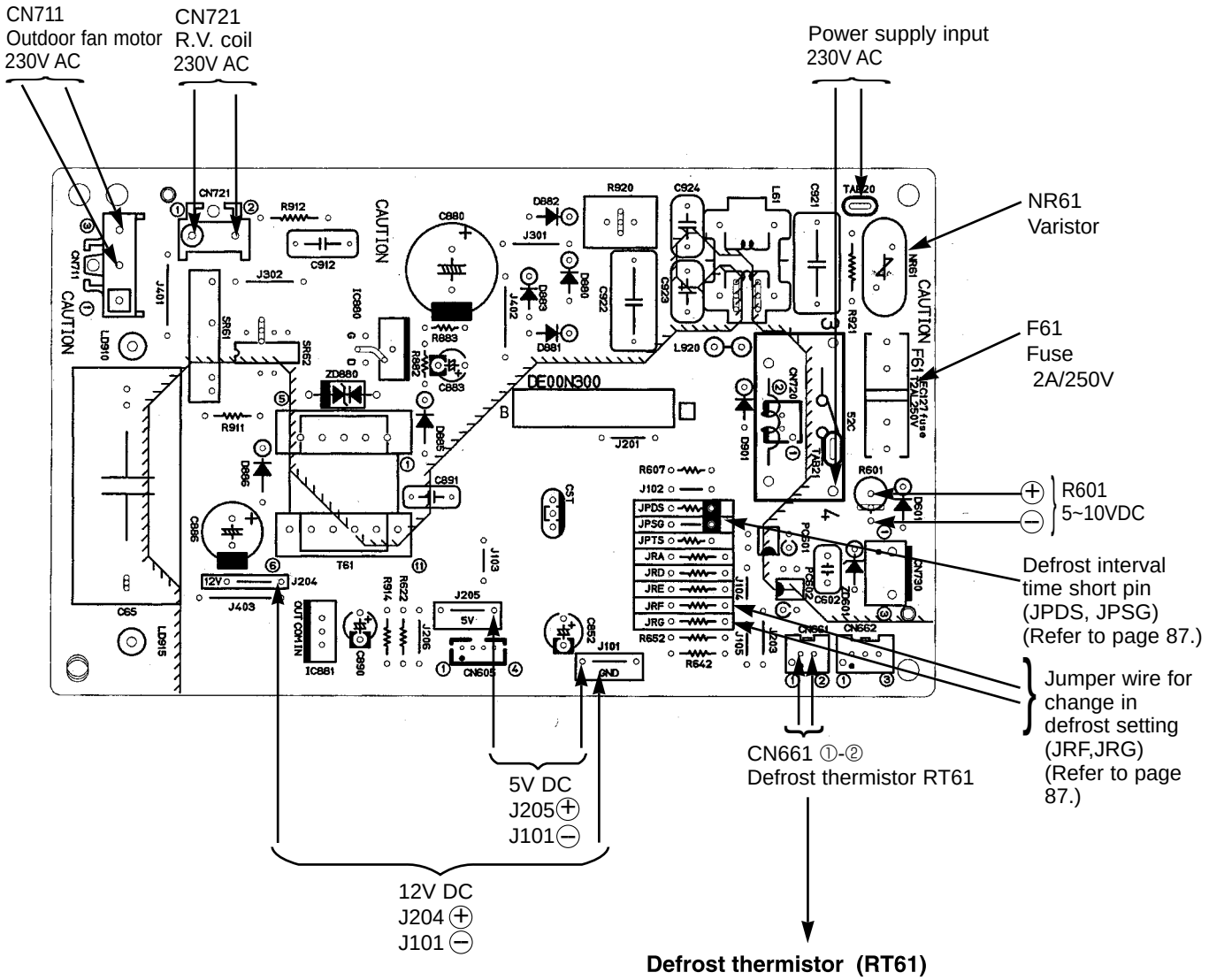


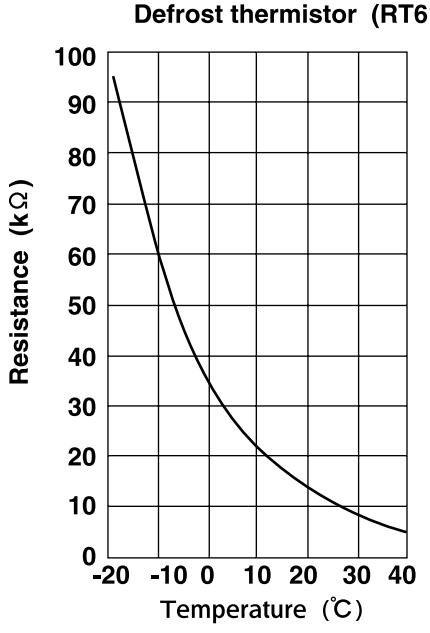

**Power monitor, receiver P.C. board**



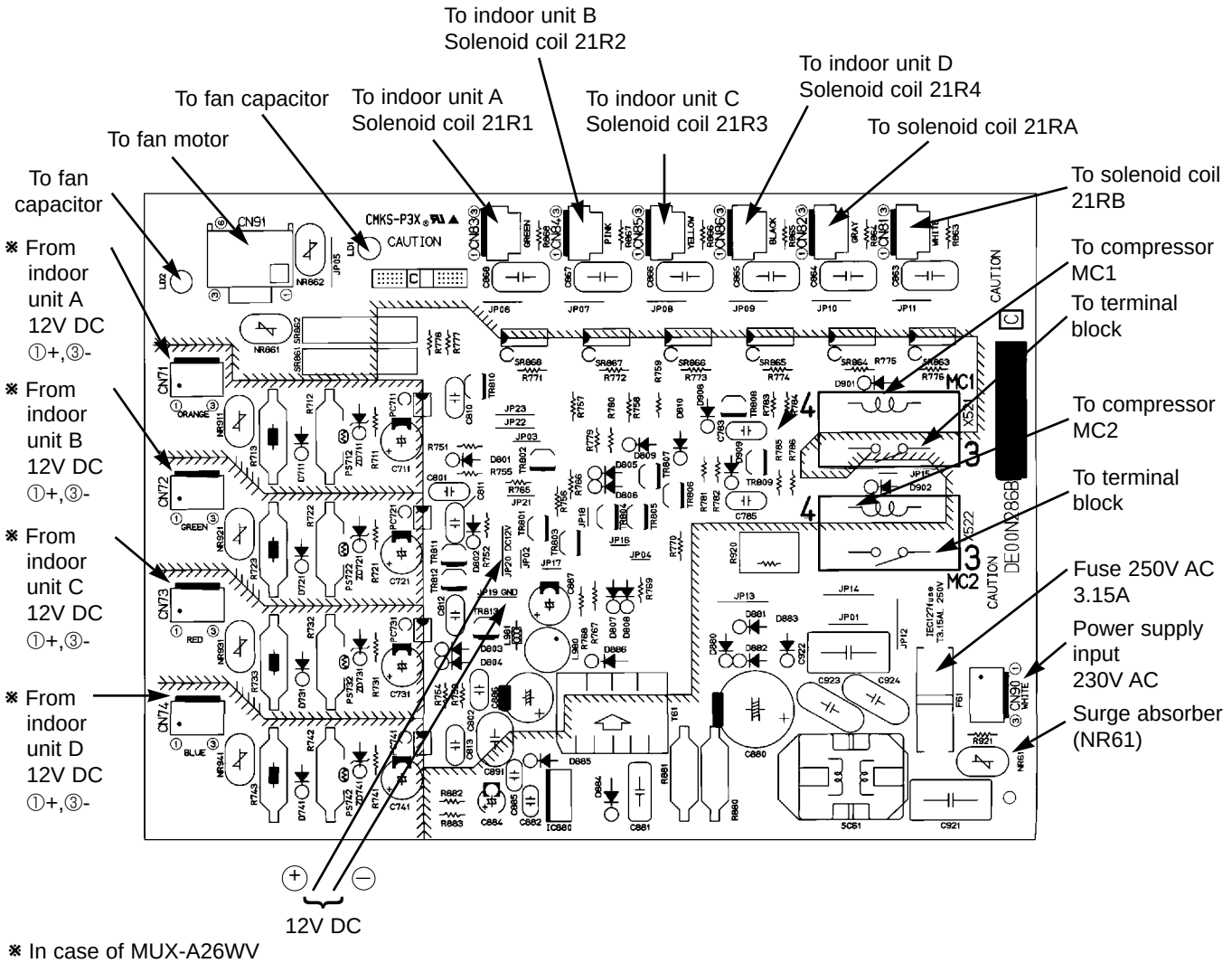


**MUH-A07WV -E1**
**MUH-A09WV -E1**
**MUH-A12WV -E1**
**Outdoor deicer P.C. board**



**MUX-A19WV -** E1
**MUX-A20WV -** E1
**MUX-A25WV -** E1
**MUX-A26WV -** E1
**Outdoor control P.C. board**

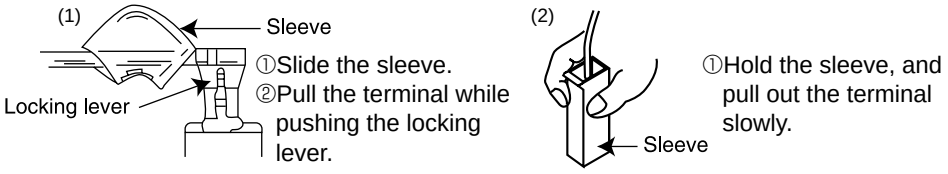

To indoor unit B
Solenoid coil 21R2
To indoor unit D
Solenoid coil 21R4
To fan capacitor
To indoor unit A
Solenoid coil 21R1
To indoor unit C
Solenoid coil 21R3
To solenoid coil 21RA
To fan motor
To fan capacitor
※ From indoor unit A 12V DC ①+,③-
※ From indoor unit B 12V DC ①+,③-
※ From indoor unit C 12V DC ①+,③-
※ From indoor unit D 12V DC ①+,③-
To solenoid coil 21RB
To compressor MC1
To terminal block
To compressor MC2
To terminal block
Fuse 250V AC 3.15A
Power supply input 230V AC
Surge absorber (NR61)
12V DC

※ In case of MUX-A26WV

# 13 DISASSEMBLY INSTRUCTIONS

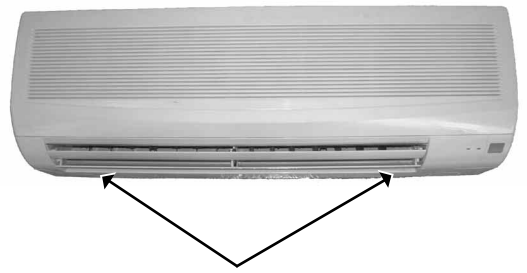
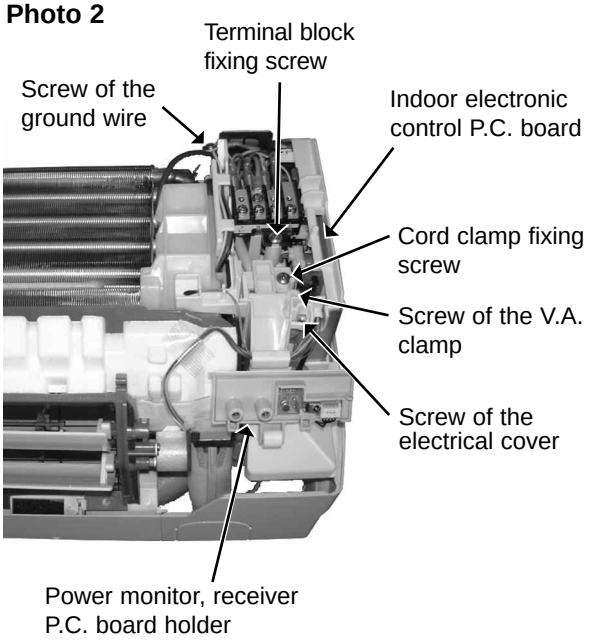
<"Terminal with lock mechanism" Detaching points>

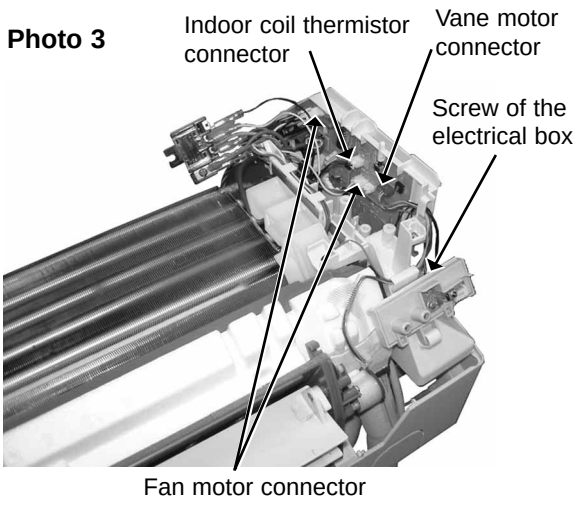
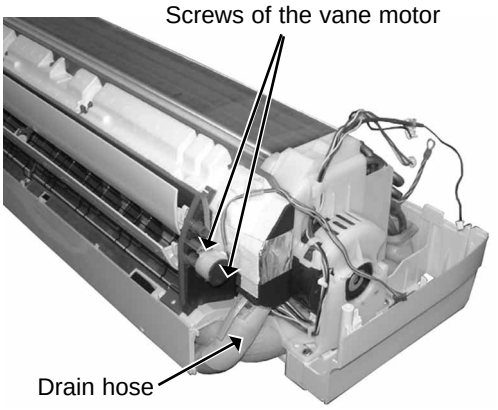
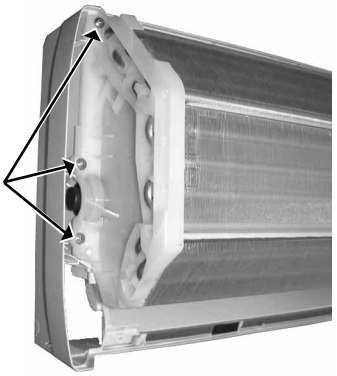
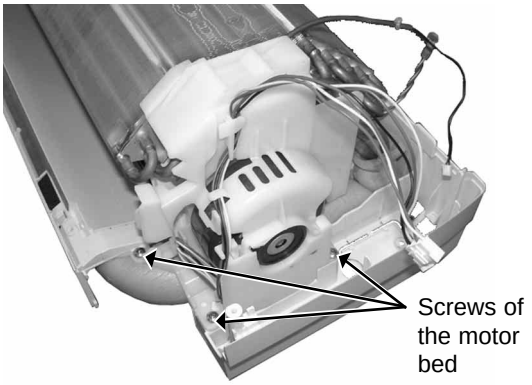
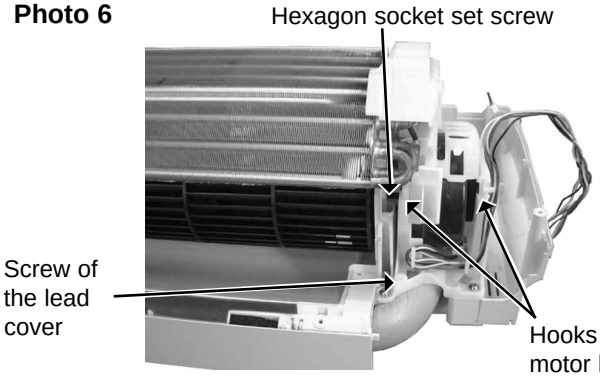
In case of terminal with lock mechanism detach the terminal as shown below.



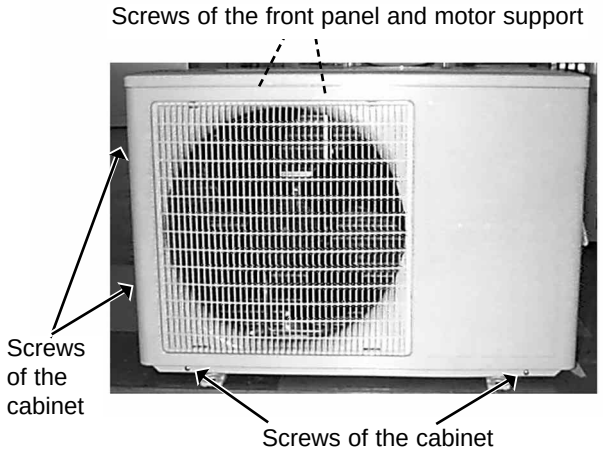
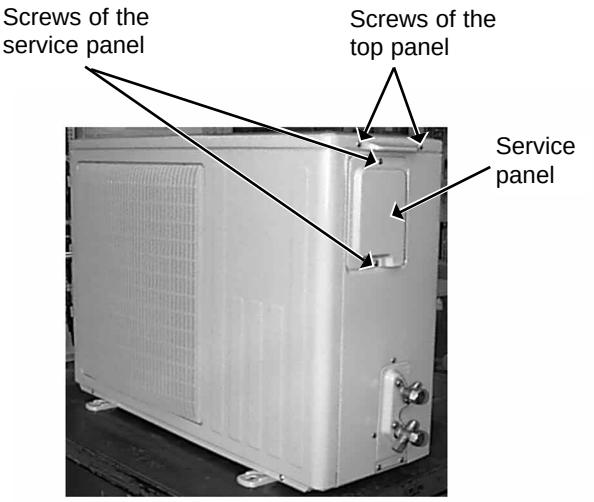
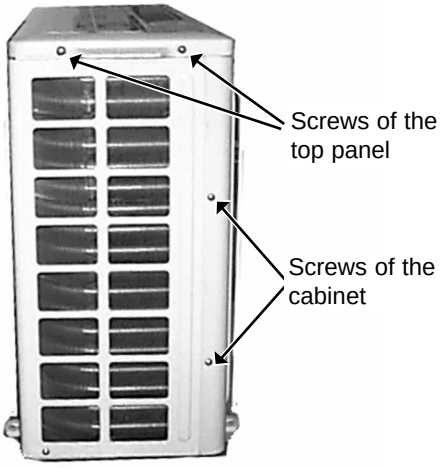
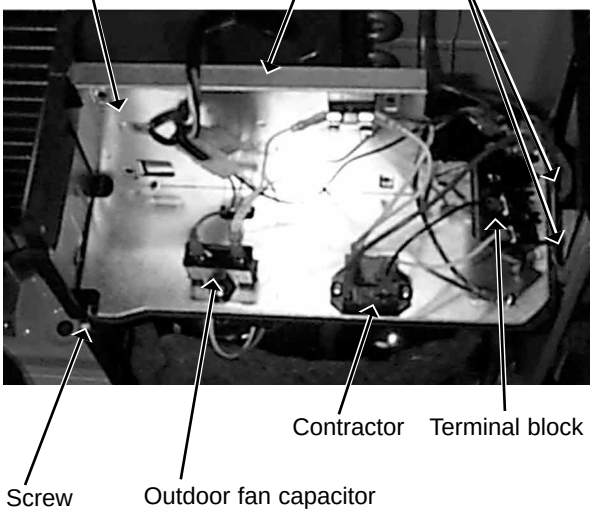

## 13-1. MSC-A07WV -E1 MSC-A09WV -E1 MSC-A12WV -E1 INDOOR UNIT

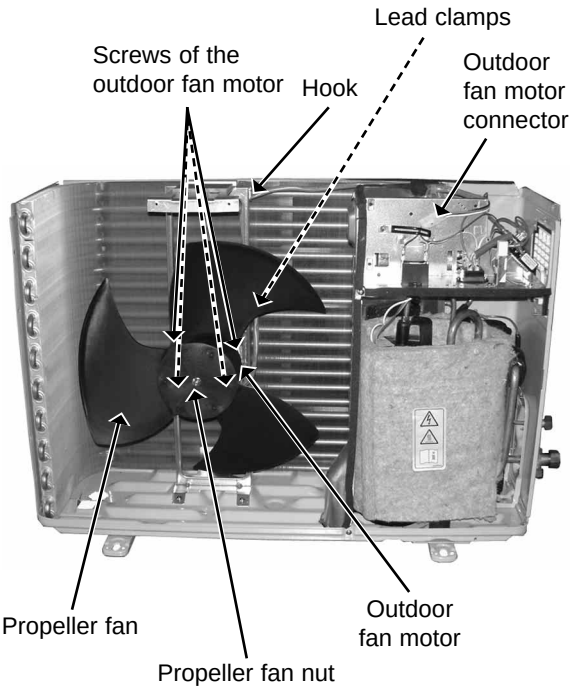
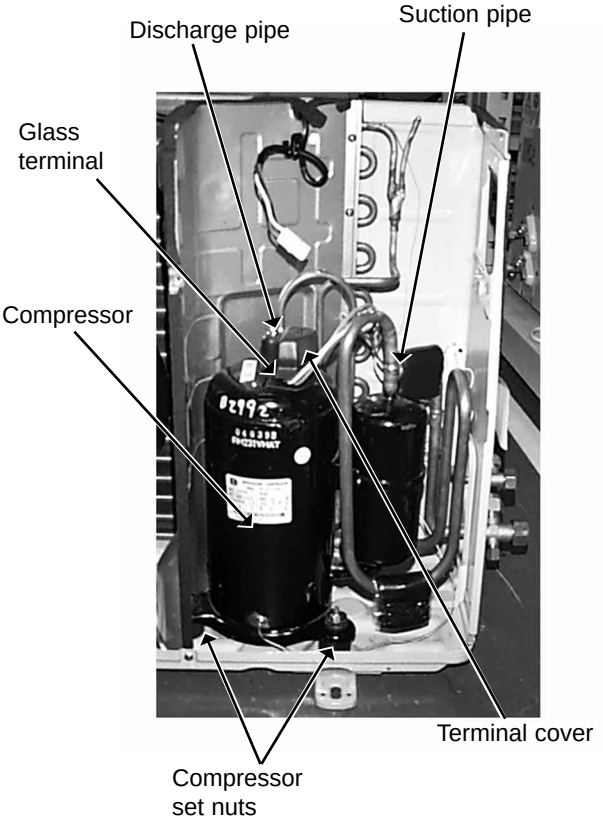
**NOTE :** These photos use MS-A09WV. Other models are almost the same as MS-S09WV.

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **1. Removing the front panel**<br>(1) Remove the screw caps of the front panel. Remove the screws.<br>(2) Pull the panel down to your side slightly and unhook the catches at the top. | **Photo 1**<br>  <br>Screws of the front panel |
| **2. Removing the electronic control P.C. board and the power monitor, receiver P.C. board**<br>**NOTE :** In case of removing only indoor electronic control P.C. board work (3) is not necessary.<br>(1) Remove the front panel. (Refer to 1)<br>(2) Remove the power monitor, receiver P.C. board holder from the bottom of electrical box.<br>(3) Open the power monitor, receiver P.C. board holder and remove the power monitor, receiver P.C. board.<br>(4) Remove the screw of the electrical cover and the electrical cover.<br>(5) Remove the screw of the V.A. clamp and the V.A. clamp.<br>(6) Remove the screw of the cord clamp and the cord clamp.<br>(7) Remove the screw of the terminal block.<br>(8) Remove the screw of the ground wire.<br>(9) Pull out indoor electronic control P.C. board slightly.<br>(10) Disconnect all (except CN101) the connectors on the electronic control P.C. board.<br>(11) Remove the electronic control P.C. board.<br>(12) Disconnect the connector of power monitor, receiver P.C. board (CN101) on the electronic control P.C. board. | **Photo 2**<br>  <br>Terminal block fixing screw<br>Screw of the ground wire<br>Indoor electronic control P.C. board<br>Cord clamp fixing screw<br>Screw of the V.A. clamp<br>Screw of the electrical cover<br>Power monitor, receiver P.C. board holder |

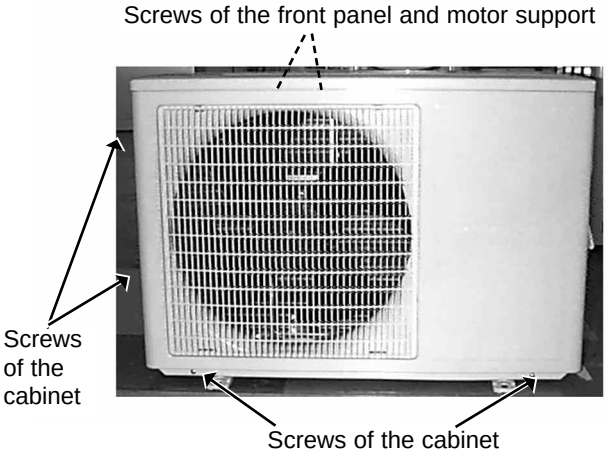
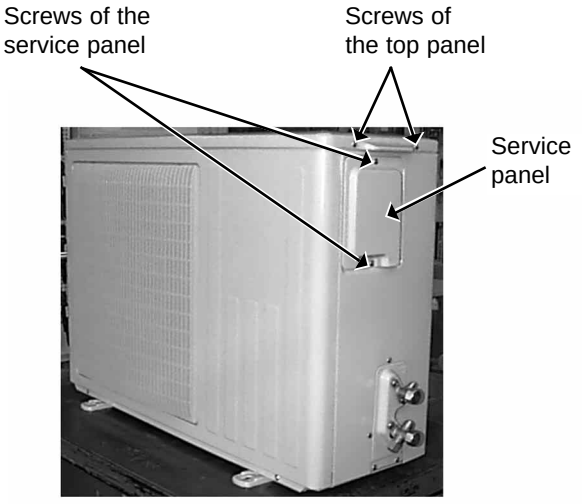
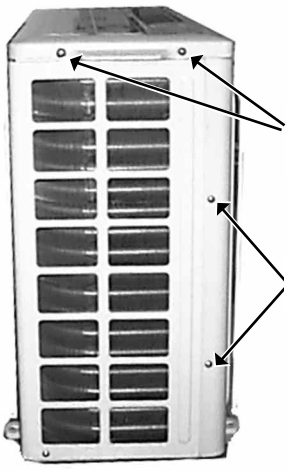
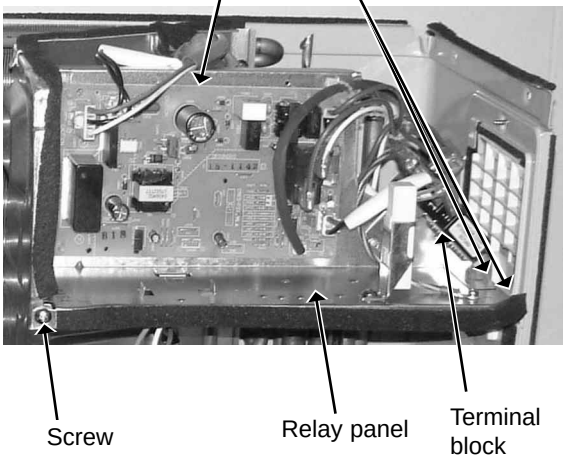
| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **3. Removing the electrical box**<br>(1) Remove the front panel. (Refer to 1.)<br>(2) Remove the electrical cover. (Refer to 2.)<br>(3) Remove the V.A. clamp. (Refer to 2.)<br>(4) Remove the cord clamp. (Refer to 2.)<br>(5) Remove the terminal block. (Refer to 2.)<br>(6) Remove the screw of ground wire. (Refer to 2.)<br>(7) Disconnect the connector of the indoor coil thermistor (CN112), the fan motor connector (CN211 and CN121) and the vane motor connector (CN151) on the electronic control P.C. board.<br>(8) Remove the fan motor lead wire and indoor coil thermistor from the electrical box.<br>(9) Remove the lead wire of vane motor from the bottom of electrical box.<br>(10) Remove the screw fixing the electrical box, remove the electrical box. | **Photo 3**<br>  <br> |
| **4. Removing the nozzle assembly and the vane motor**<br>(1) Remove the front panel. (Refer to 1.)<br>(2) Remove the electrical box. (Refer to 3.)<br>(3) Pull out the drain hose from the nozzle assembly, remove the nozzle assembly.<br>(4) Remove the screws of the vane motor, disconnect the vane motor connector.<br>(5) Remove the vane motor. | **Photo 4**<br>  <br> |
| **5. Removing the indoor fan motor and the line flow fan**<br>(1) Remove the front panel. (Refer to 1.)<br>(2) Remove the electrical box. (Refer to 3.)<br>(3) Pull out the drain hose from the nozzle assembly, remove the nozzle assembly. (Refer to 4.)<br>(4) Remove the screw of the lead cover and lead cover.<br>(5) Release the hooks to open the motor band slightly.<br>(6) Loosen the hexagon socket set screw from the line flow fan.<br>(7) Remove the screws fixing the motor bed, remove the fan motor with motor band and the motor bed.<br>(8) Remove the screws fixing the left side of the heat exchanger.<br>(9) Lift the left side of the heat exchanger.<br>(10) Remove the line flow fan. | **Photo 5**<br>  <br><br>**Photo 7**<br>  <br> |
| **Photo 6**<br>  <br> | |

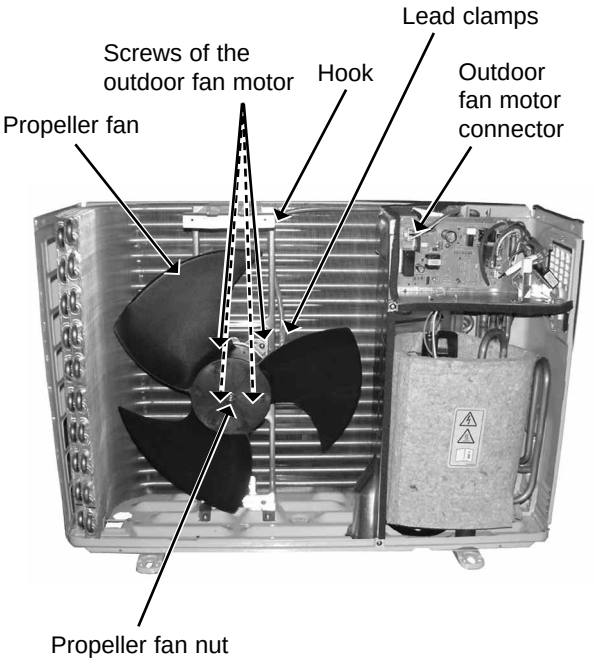
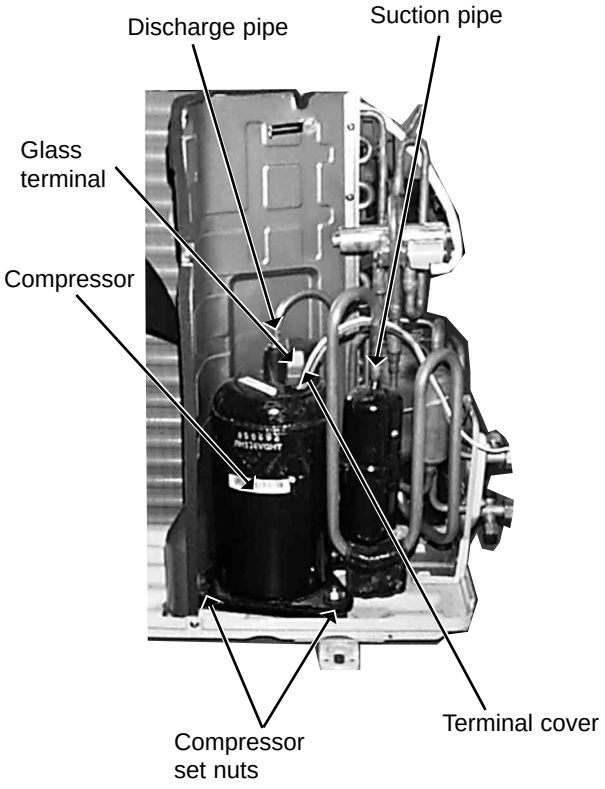
## 13-2. MU-A07WV -E1 MU-A09WV -E1 MU-A12WV -E1
## OUTDOOR UNIT

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **1. Removing the cabinet**<br>(1) Remove the screws of the top panel.<br>(2) Remove the screw of the service panel.<br>(3) Remove the screws of the cabinet.<br>(4) Remove the screws of the front panel and motor support.<br>(5) Remove the service panel, and remove the screw from the insides.<br>(6) Remove the top panel.<br>(7) Remove the cabinet. | **Photo 1**<br>  <br> |
| **Photo 3**<br>  <br> | **Photo 2**<br>  <br> |
| **2. Removing the electrical parts**<br>(1) Remove the service panel and the cabinet.(Refer to 1.)<br>(2) Remove the following parts.<br>•Compressor capacitor (C1)<br>•Outdoor fan capacitor (C2)<br>•Terminal block | **Photo 4**<br>  <br> |

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **3. Removing the propeller fan and the outdoor fan motor**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the propeller fan nut.<br>(3) Remove the propeller fan.<br>**NOTE : Loose the propeller fan in the rotating direction for removal.**<br>When attaching the propeller fan, align the mark on the propeller fan and the motor shaft cut section.<br>Set the propeller fan in position by using the cut on the shaft and the mark on the propeller fan.<br>(4) Remove lead clamps and disconnect the outdoor fan motor connector.<br>(5) Remove screws fixing the fan motor.<br>(6) Remove the outdoor fan motor. | **Photo 5**<br>  <br> |
| **4. Removing the compressor**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the relay panel.<br>(3) Remove the soundproof felt.<br>(4) Remove the terminal cover on the compressor.<br>(5) Disconnect lead wires from the glass terminal of the compressor.<br>(6) Recover gas from the refrigerant circuit.<br>(7) Disconnect the welded part of the discharge pipe.<br>(8) Disconnect the welded part of the suction pipe.<br>(9) Remove nuts fixing the compressor.<br>(10) Remove the compressor.<br><br>**NOTE**<br>● Before using a burner, reclaim gas from the pipes until the pressure gauge shows 0 kg/cm$^2$ (0 MPa) .<br>● Use the burner under the condition that gas can be recovered even when the inner pressure rises by heat. | **Photo 6**<br>  <br> |

## 13-3. MUH-A07WV -E1 MUH-A09WV -E1 MUH-A12WV -E1 OUTDOOR UNIT

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **1. Removing the cabinet**<br>(1) Remove the screws of the top panel.<br>(2) Remove the screw of the service panel.<br>(3) Remove the screws of the cabinet.<br>(4) Remove the screws of the front panel and motor support.<br>(5) Remove the service panel, and remove the screw from the insides.<br>(6) Remove the top panel.<br>(7) Remove the cabinet. | **Photo 1**<br>  <br> |
| **Photo 3**<br>  <br> | **Photo 2**<br>  <br> |
| **2. Removing the deicer P.C. board**<br>(1) Remove the service panel and the cabinet.<br>(2) Disconnect all the connectors and the terminals on the deicer P.C. board.<br>(3) Remove the deicer P.C. board. | **Photo 4**<br>  <br> |

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **3. Removing the propeller fan and the outdoor fan motor**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the propeller fan nut.<br>(3) Remove the propeller fan.<br>**NOTE : Loose the propeller fan in the rotating direction for removal.**<br>When attaching the propeller fan, align the mark on the propeller fan and the motor shaft cut section.<br>Set the propeller fan in position by using the cut on the shaft and the mark on the propeller fan.<br>(4) Remove lead clamps and disconnect the outdoor fan motor connector.<br>(5) Remove screws fixing the fan motor.<br>(6) Remove the outdoor fan motor. | **Photo 5**<br>  <br> |
| **4. Removing the compressor**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the relay panel.<br>(3) Remove the soundproof felt.<br>(4) Remove the terminal cover on the compressor.<br>(5) Disconnect lead wires from the glass terminal of the compressor.<br>(6) Recover gas from the refrigerant circuit.<br>(7) Disconnect the welded part of the discharge pipe.<br>(8) Disconnect the welded part of the suction pipe.<br>(9) Remove nuts fixing the compressor.<br>(10) Remove the compressor.<br><br>**NOTE**<br>● Before using a burner, reclaim gas from the pipes until the pressure gauge shows 0 kg/cm$^2$ (0 MPa) .<br>● Use the burner under the condition that gas can be recovered even when the inner pressure rises by heat. | **Photo 6**<br>  <br> |

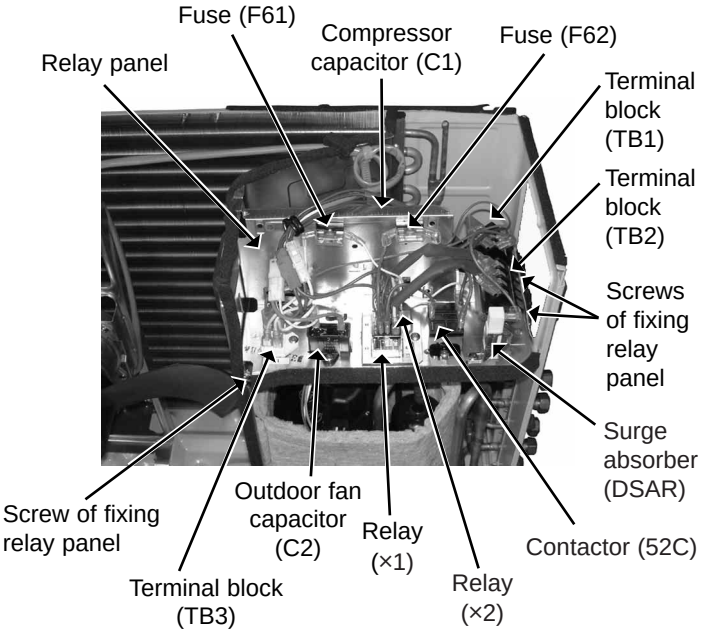
## 13-4. MUX-A10WV - E1
## OUTDOOR UNIT

### OPERATING PROCEDURE

**1. Removing the cabinet**

(1) Remove the screws of the top panel.
(2) Remove the screw of the service panel.
(3) Remove the screws of the cabinet.
(4) Remove the screws of the front panel and motor support.
(5) Remove the service panel, and remove the screw from the insides.
(6) Remove the top panel.
(7) Remove the cabinet.

**Photo 3**




**2. Removing the relay panel**

(1) Remove the service panel and the cabinet.(Refer to 1.)
(2) Remove the following connectors.
•Outdoor fan motor
•Solenoid coil (21R, 21R1, 21R2)

### PHOTOS

**Photo 1**

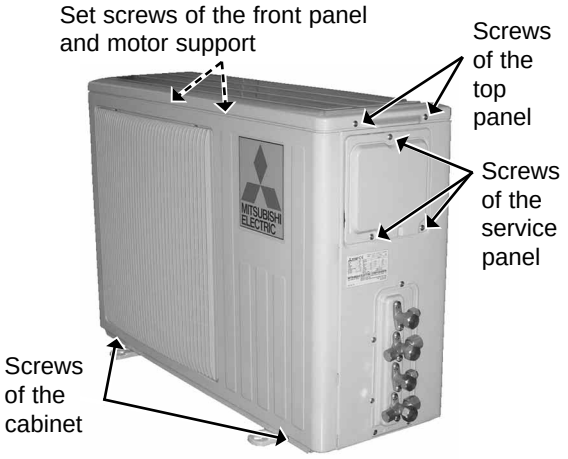



**Photo 2**

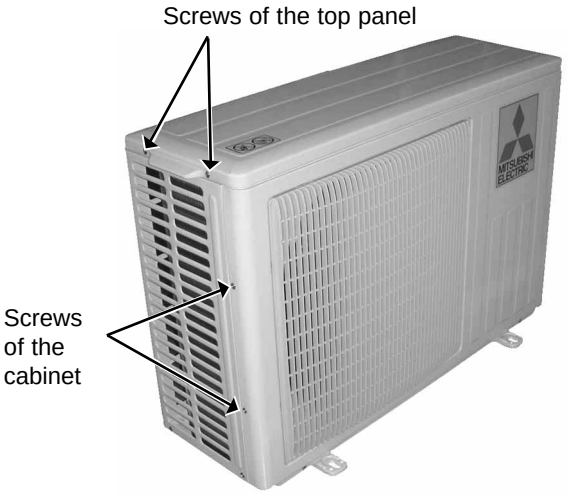
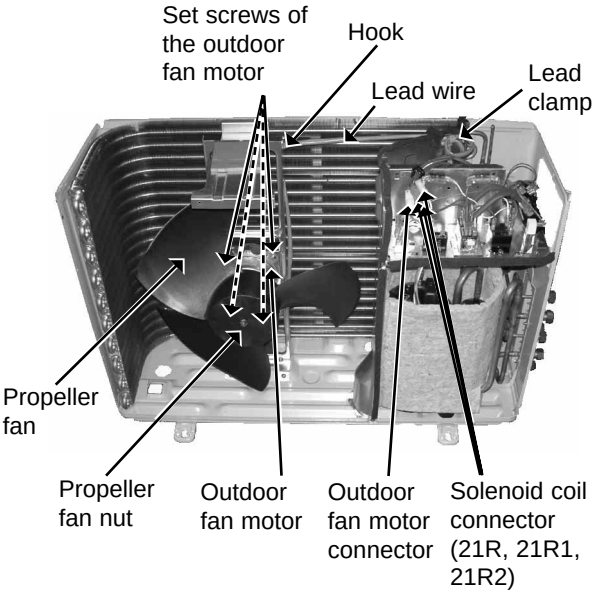
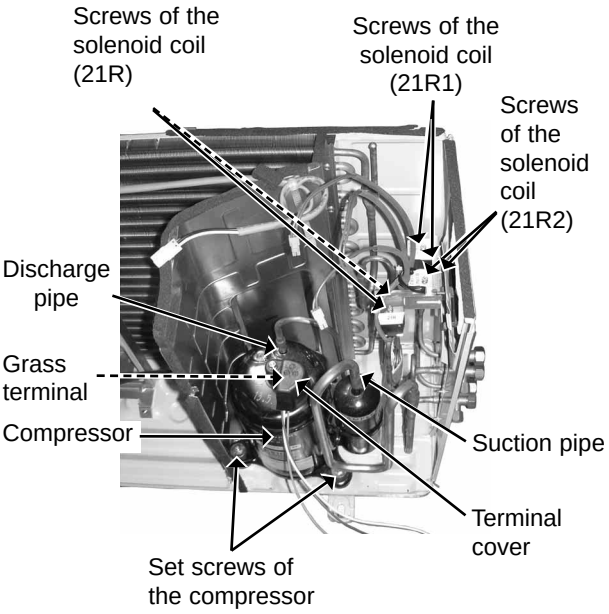


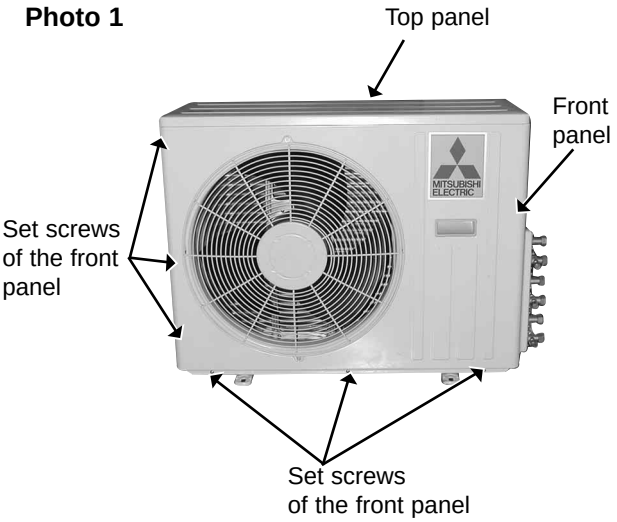
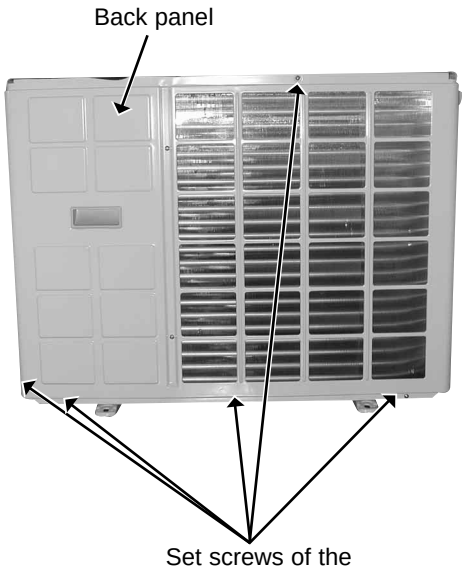
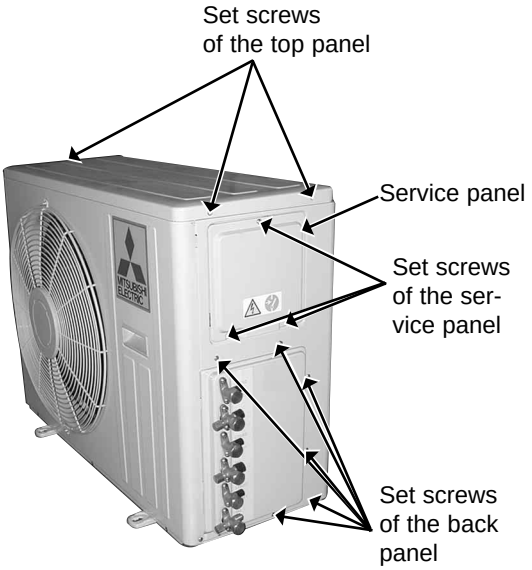

**Photo 4**

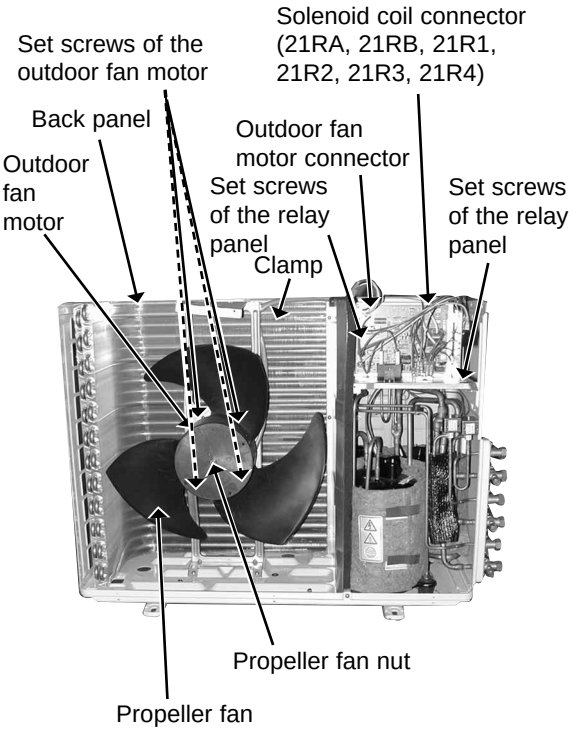


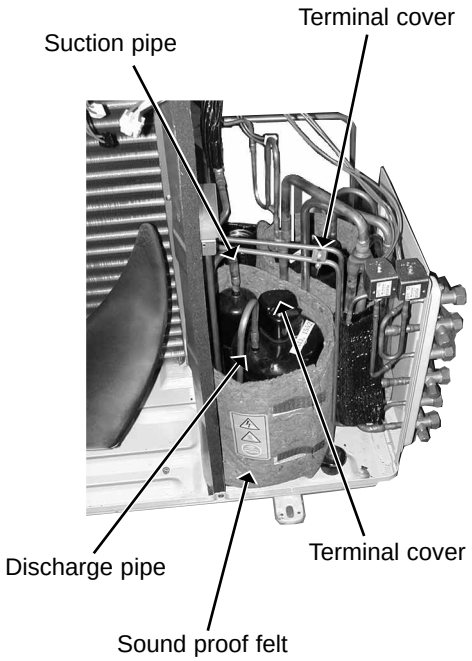
| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **3. Removing the propeller fan and the outdoor fan motor**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the propeller fan nut.<br>(3) Remove the propeller fan.<br>**NOTE : Loose the propeller fan in the rotating direction for removal.**<br>When attaching the propeller fan, align the mark on the propeller fan and the motor shaft cut section.<br>Set the propeller fan in position by using the cut on the shaft and the mark on the propeller fan.<br>(4) Remove lead clamps and disconnect the outdoor fan motor connector.<br>(5) Remove screws fixing the fan motor.<br>(6) Remove the outdoor fan motor. | **Photo 5**<br>  <br> |
| **4. Removing the compressor**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the relay panel.<br>(3) Remove the soundproof felt.<br>(4) Remove the terminal cover on the compressor.<br>(5) Disconnect lead wires from the glass terminal of the compressor.<br>(6) Recover gas from the refrigerant circuit.<br>(7) Disconnect the welded part of the discharge pipe.<br>(8) Disconnect the welded part of the suction pipe.<br>(9) Remove nuts fixing the compressor.<br>(10) Remove the compressor.<br><br>**NOTE**<br>● Before using a burner, reclaim gas from the pipes until the pressure gauge shows 0 kg/cm$^2$ (0 MPa) .<br>● Use the burner under the condition that gas can be recovered even when the inner pressure rises by heat. | |

## 13-5. MUX-A19WV -E1 MUX-A20WV -E1 MUX-A25WV -E1 MUX-A26WV -E1 OUTDOOR UNIT

**NOTE :** These photos use MUX-A20WV.
Other models are almost the same as MUX-A20WV.

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **1.Removing the cabinet**<br>(1) Remove the screws of the service panel.<br>(2) Remove the screws of the top panel.<br>(3) Remove the service panel.<br>(4) Remove the top panel.<br>(5) Remove the screws of the front panel.<br>(6) Remove the front panel.<br>(7) Remove the screws of the back panel.<br>(8) Remove the back panel. | **Photo 1**<br>  <br> |
| **Photo 3**<br>  <br> | **Photo 2**<br>  <br> |

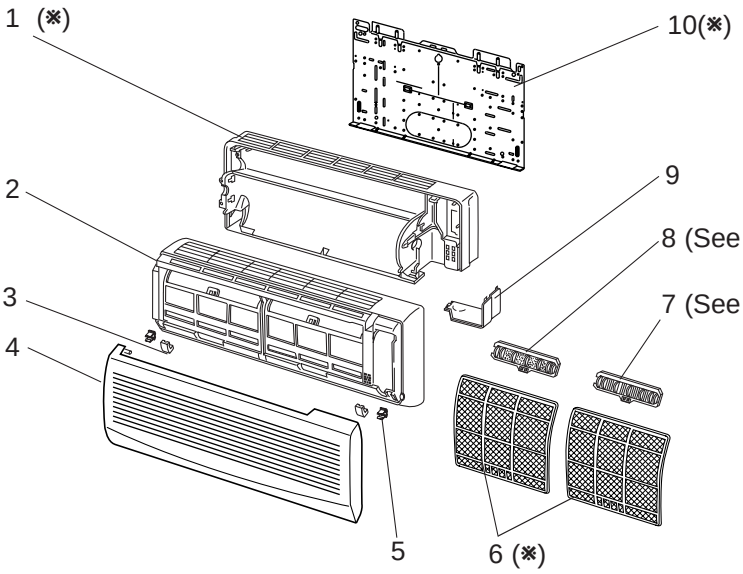
| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **2. Removing the relay panel**<br>(1) Remove the cabinet. (Refer to 1)<br>(2) Disconnect the following connectors.<br>・Outdoor fan motor<br>・**Only MUX-20WV**<br>Solenoid coil (21RB, 21R3, 21R4)<br>・**Only MUX-26WV**<br>Solenoid coil (21RA, 21RB, 21R1, 21R2, 21R3, 21R4) | **Photo 4**<br>  <br> |
| **3. Removing the propeller fan**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the propeller fan nut.<br>(3) Remove the propeller fan.<br>**NOTE : Loose the propeller fan in the rotating direction for removal.**<br>When attaching the propeller fan, align the mark on the propeller fan and the motor shaft cut section.<br>Set the propeller fan in position by using the cut on the shaft and the mark on the propeller fan. | |
| **4. Removing the outdoor fan motor**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the propeller fan. (Refer to 3.)<br>(3) Remove the clamp of outdoor fan motor lead wire and disconnect the outdoor fan motor connector.<br>(4) Remove the screws fixing the outdoor fan motor.<br>(5) Remove the outdoor fan motor. | |

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **5. Removing the compressor (A, B)**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the relay panel.<br>(3) Remove the soundproof felt.<br>(4) Remove the terminal cover on the compressor.<br>(5) Disconnect lead wires from the compressor.<br>(6) Recover gas from the refrigerant circuit.<br>(7) Disconnect the welded part of the discharge pipe.<br>(8) Disconnect the welded part of the suction pipe.<br>(9) Remove nuts fixing the compressor.<br>(10) Remove the compressor.<br><br>**NOTE**<br>● Before using a burner, reclaim gas from the pipes until the pressure gauge shows 0 kg/cm$^2$ (0 MPa) .<br>● Use the burner under the condition that gas can be recovered even when the inner pressure rises by heat. | **Photo 5**<br>  <br> |
| **6. Removing the compressor (C)**<br>(1) Remove the cabinet. (Refer to 1.)<br>(2) Remove the relay panel. (Refer to 2.)<br>(3) Remove the screws fixing back panel.<br>(4) Remove the back panel.<br>(5) Remove the soundproof felt.<br>(6) Remove the terminal cover on the compressor.<br>(7) Disconnect lead wires from the compressor.<br>(8) Recover gas from the refrigerant circuit.<br>(9) Disconnect the welded part of the discharge pipe.<br>(10) Disconnect the welded part of the suction pipe.<br>(11) Remove nuts fixing the compressor.<br>(12) Remove the compressor.<br><br>**NOTE**<br>● Before using a burner, reclaim gas from the pipes until the pressure gauge shows 0 kg/cm$^2$ (0 MPa) .<br>● Use the burner under the condition that gas can be recovered even when the inner pressure rises by heat. | |

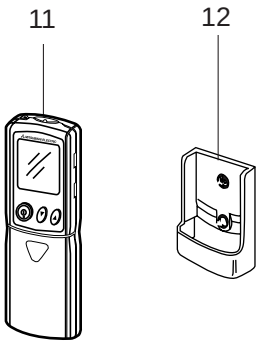
# 14 PARTS LIST

**MSC-A07WV -E1 (WH)**
**MSC-A09WV -E1 (WH)**
**MSC-A12WV -E1 (WH)**

## 14-1. INDOOR UNIT STRUCTURAL PARTS




## 14-2. ACCESSORY AND REMOTE CONTROLLER




(※) These figures show about MSC-A12WV.

## 14-1. INDOOR UNIT STRUCTURAL PARTS

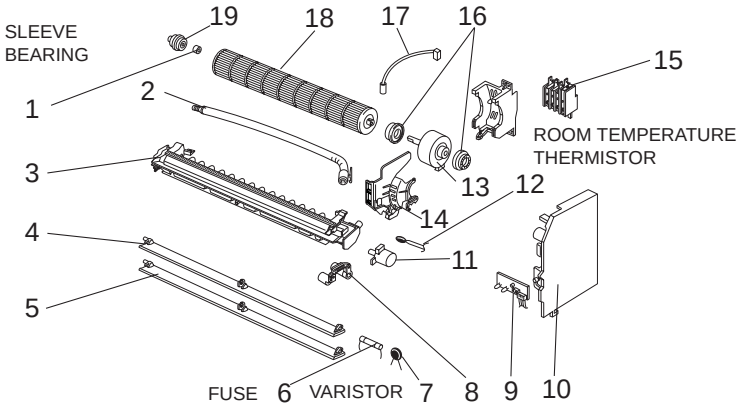
| No. | Part No. | Part Name | Symbol in Wiring Diagram | Q'ty/unit | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | MSC-A07WV-E1 (WH) | MSC-A09WV-E1 (WH) | MSC-A12WV-E1 (WH) | |
| 1 | E02 749 234 | BOX(WH) | | 1 | 1 | | |
| | E02 751 234 | BOX(WH) | | | | 1 | |
| 2 | E02 749 000 | PANEL ASSEMBLY(WH) | | 1 | 1 | 1 | Including No.3,4,5 |
| 3 | E02 749 067 | SCREW CAP(WH) | | 2 | 2 | 2 | 2PCS/SET |
| 4 | E02 749 010 | FRONT PANEL(WH) | | 1 | 1 | 1 | |
| 5 | E02 408 142 | CATCH | | 2 | 2 | 2 | 2PCS/SET |
| 6 | E02 749 100 | AIR FILTER | | 2 | 2 | | |
| | E02 751 100 | AIR FILTER | | | | 2 | |
| 7 | ———— | AIR CLEANING FILTER | | 1 | 1 | 1 | MAC-1300FT |
| 8 | ———— | DEODORIZING FILTER | | 1 | 1 | 1 | MAC-1800DF |
| 9 | E02 749 975 | CORNER BOX (RIGHT) | | 1 | 1 | 1 | |
| 10 | E02 408 970 | INSTALLATION PLATE | | 1 | 1 | | |
| | E02 751 970 | INSTALLATION PLATE | | | | 1 | |

## 14-2. ACCESSORY AND REMOTE CONTROLLER

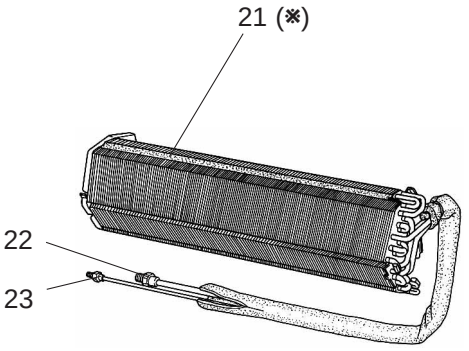
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | E02 749 426 | REMOTE CONTROLLER | | 1 | 1 | 1 | |
| 12 | E02 527 083 | REMOTE CONTROLLER HOLDER | | 1 | 1 | 1 | |

## MSC-A07WV -E1 (WH) MSC-A09WV -E1 (WH) MSC-A12WV -E1 (WH)

### 14-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS




### 14-4. INDOOR UNIT HEAT EXCHANGER




(※)These figures show about MSC-A12WV.

### 14-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS

Part number that is circled is not shown in the illustration.

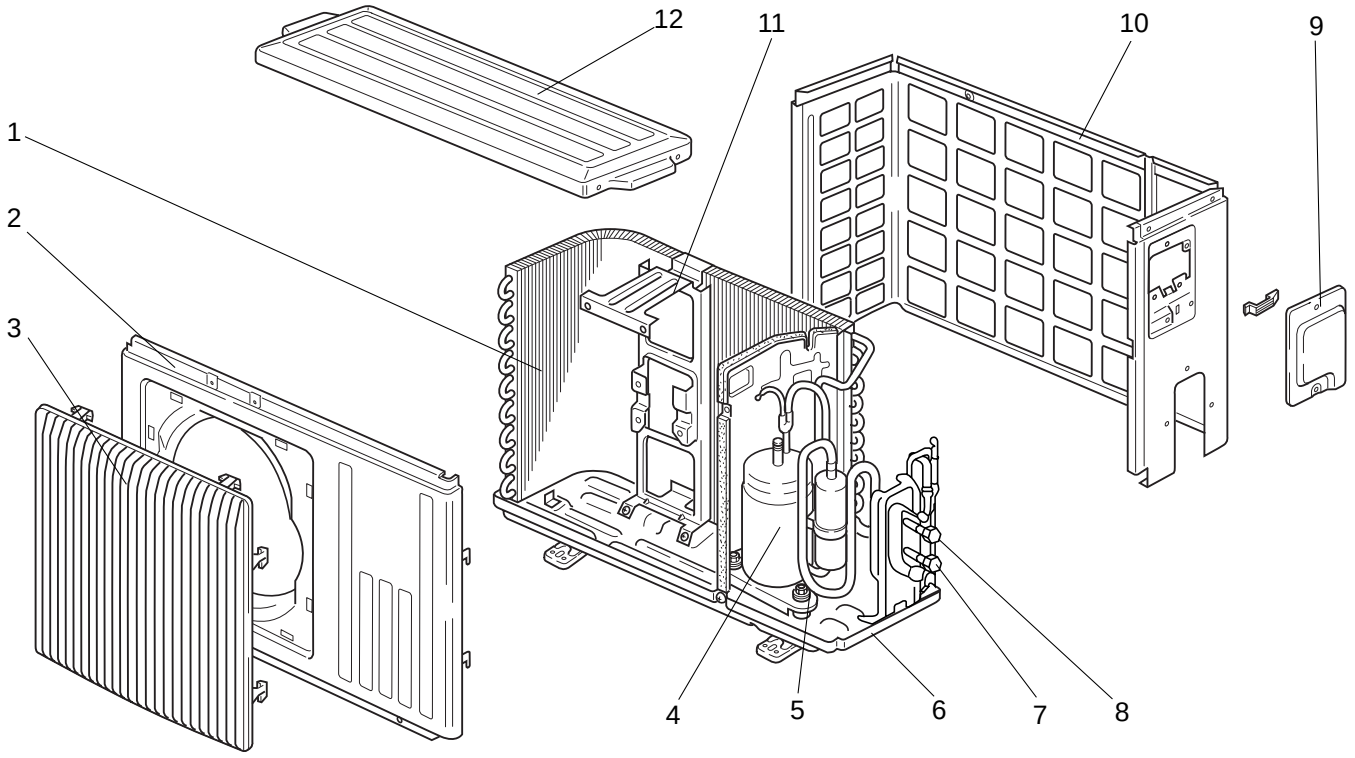
| No. | Part No. | Part Name | Symbol in Wiring Diagram | Q'ty/unit | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | MSC-A07WV-E1 (WH) | MSC-A09WV-E1 (WH) | MSC-A12WV-E1 (WH) | |
| 1 | E02 001 504 | SLEEVE BEARING | | 1 | 1 | 1 | |
| 2 | E02 661 702 | DRAIN HOSE | | 1 | 1 | 1 | |
| 3 | E02 749 235 | NOZZLE ASSEMBLY(WH) | | 1 | 1 | 1 | |
| 4 | E02 749 040 | VANE UPPER (WH) | | 1 | 1 | 1 | |
| 5 | E02 749 041 | VANE LOWER (WH) | | 1 | 1 | 1 | |
| 6 | E02 127 382 | FUSE | F11 | 1 | 1 | 1 | 3.15A |
| 7 | E02 336 385 | VARISTOR | NR11 | 1 | 1 | 1 | (NR12) |
| 8 | E02 763 034 | VANE CRANK SET | | 1 | 1 | 1 | |
| 9 | E02 749 468 | POWER MONITOR, RECEIVER P.C. BOARD | | 1 | 1 | 1 | |
| 10 | E02 749 452 | ELECTRONIC CONTROL P.C.BOARD | | 1 | | | AUTO RESTART |
| | E02 750 452 | ELECTRONIC CONTROL P.C.BOARD | | | 1 | | AUTO RESTART |
| | E02 751 452 | ELECTRONIC CONTROL P.C.BOARD | | | | 1 | AUTO RESTART |
| 11 | E02 749 303 | VANE MOTOR | MV | 1 | 1 | 1 | |
| 12 | E02 151 308 | ROOM TEMPERATURE THERMISTOR | RT11 | 1 | 1 | 1 | |
| 13 | E02 749 300 | INDOOR FAN MOTOR | MF | 1 | 1 | | RC4V19-□□ |
| | E02 751 300 | INDOOR FAN MOTOR | MF | | | 1 | RC4V19-□□ |
| 14 | E02 749 333 | MOTOR BAND | | 1 | 1 | 1 | |
| 15 | E02 691 375 | TERMINAL BLOCK | TB | 1 | 1 | 1 | |
| 16 | E02 665 505 | FAN MOTOR RUBBER MOUNT | | 2 | 2 | | 2PCS/SET |
| | E02 151 505 | FAN MOTOR RUBBER MOUNT | | | | 2 | 2PCS/SET |
| 17 | E02 749 307 | INDOOR COIL THERMISTOR | RT12 | 1 | 1 | 1 | |
| 18 | E02 749 302 | LINE FLOW FAN | | 1 | 1 | 1 | |
| 19 | E02 408 509 | BEARING MOUNT | | 1 | 1 | | |
| | E02 751 509 | BEARING MOUNT | | | | 1 | |
| 20 | E02 408 381 | THERMAL FUSE | | 1 | 1 | 1 | |

### 14-4. INDOOR UNIT HEAT EXCHANGER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 21 | E02 749 620 | INDOOR HEAT EXCHANGER | | 1 | 1 | | |
| | E02 751 620 | INDOOR HEAT EXCHANGER | | | | 1 | |
| 22 | E02 151 666 | UNION(GAS) | | 1 | 1 | | ϕ9.52 |
| | E02 155 666 | UNION(GAS) | | | | 1 | ϕ12.7 |
| 23 | E02 151 667 | UNION(LIQUID) | | 1 | 1 | 1 | ϕ6.35 |

**MU-A07WV -E1**
**MU-A09WV -E1**
**MU-A12WV -E1**

## 14-5. OUTDOOR UNIT STRUCTURAL PARTS

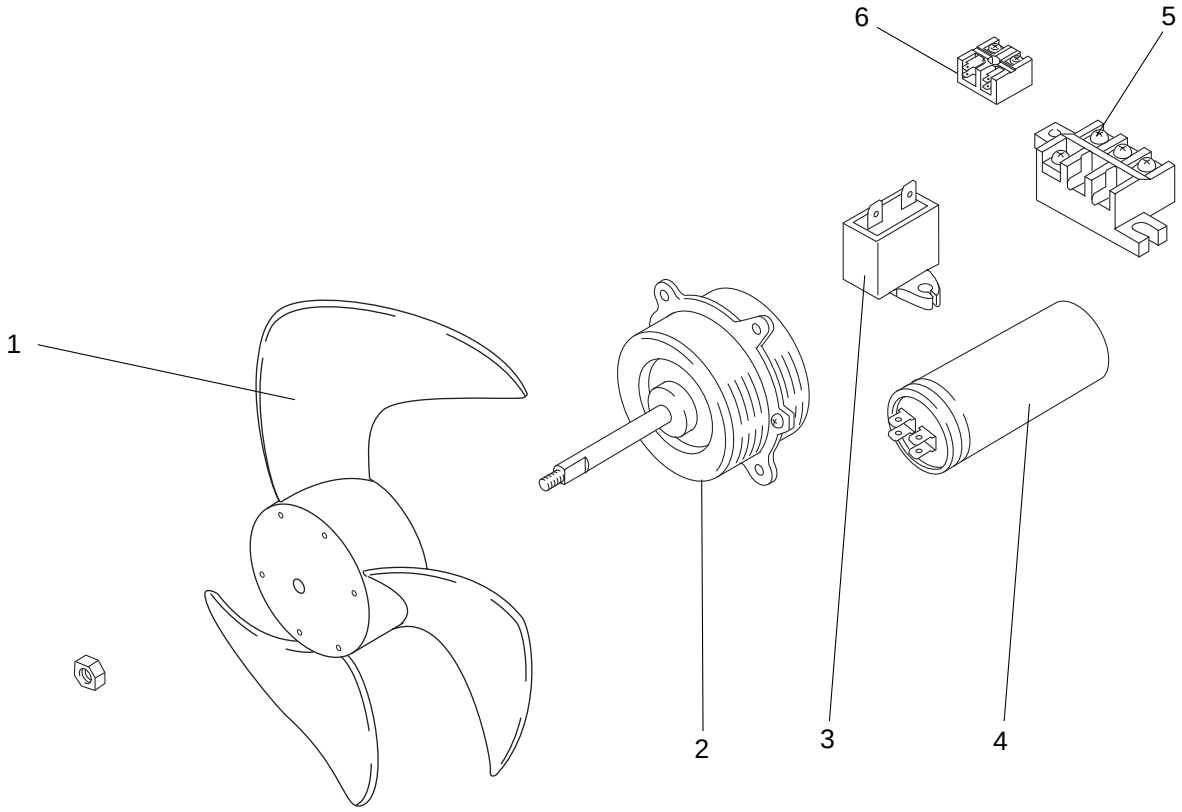



Part number that is circled is not shown in the illustration.

| No. | Part No. | Part name | Symbol in Wiring Diagram | Q'ty/unit | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | MU-A07WV- E1 | MU-A09WV- E1 | MU-A12WV- E1 | |
| 1 | E02 336 630 | OUTDOOR HEAT EXCHANGER | | 1 | 1 | 1 | |
| 2 | E02 336 232 | CABINET | | 1 | 1 | 1 | |
| 3 | E02 336 521 | GRILLE(OUT) | | 1 | 1 | 1 | |
| 4 | E02 742 900 | COMPRESSOR | MC | 1 | | | RN092VHSHT |
| | E02 743 900 | COMPRESSOR | MC | | 1 | | RN099VHSHT |
| | E02 754 900 | COMPRESSOR | MC | | | 1 | RN135VHSHT |
| 5 | E02 075 506 | COMPRESSOR RUBBER SET | | 3 | 3 | 3 | 3RUBBERS/SET |
| 6 | E02 340 290 | BASE | | 1 | 1 | 1 | |
| 7 | E02 742 661 | STOP VALVE(GAS) | | 1 | 1 | | ϕ9.52 |
| | E02 747 661 | STOP VALVE(GAS) | | | | 1 | ϕ12.7 |
| 8 | E02 742 662 | STOP VALVE(LIQUID) | | 1 | 1 | 1 | ϕ6.35 |
| 9 | E02 336 245 | SERVICE PANEL | | 1 | 1 | 1 | |
| 10 | E02 339 233 | BACK PANEL | | 1 | 1 | | |
| | E02 440 233 | BACK PANEL | | | | 1 | |
| 11 | E02 336 515 | MOTOR SUPPORT | | 1 | 1 | 1 | |
| 12 | E02 336 297 | TOP PANEL | | 1 | 1 | 1 | |
| (13) | E02 156 936 | CAPILLARY TUBE | | 1 | | | ϕ3.0xϕ1.4x500 |
| | E02 408 936 | CAPILLARY TUBE | | | 1 | | ϕ3.0xϕ1.4x700 |
| | E02 441 936 | CAPILLARY TUBE | | | | 1 | ϕ3.0xϕ1.4x550 |

## MU-A07WV -E1 MU-A09WV -E1 MU-A12WV -E1

## 14-6. OUTDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS

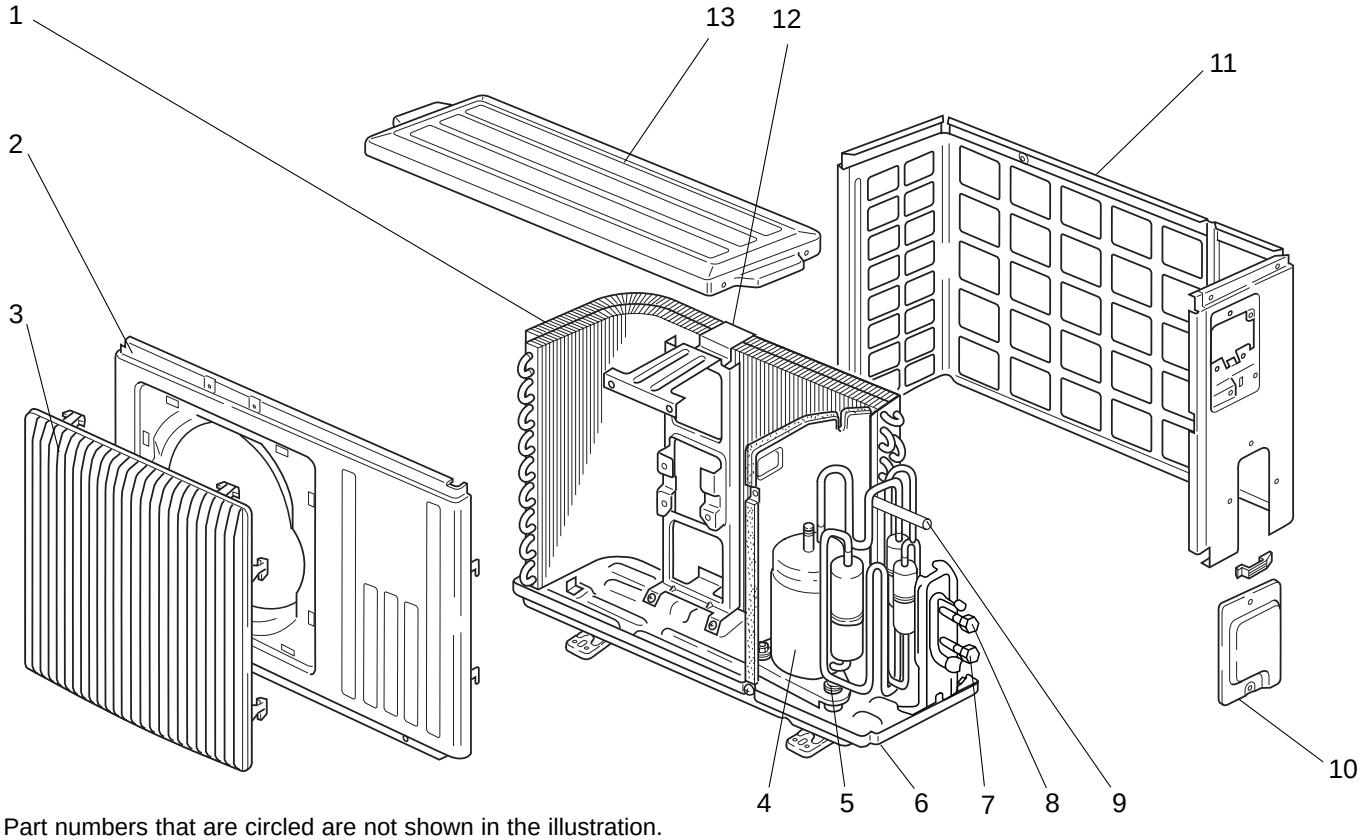



Part numbers that are circled are not shown in the illustration.

| No. | Part No. | Part name | Symbol in Wiring Diagram | Q'ty/unit | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | MU-A07WV- E1 | MU-A09WV- E1 | MU-A12WV- E1 | |
| 1 | E02 665 501 | PROPELLER FAN | | 1 | 1 | 1 | |
| 2 | E02 676 301 | OUTDOOR FAN MOTOR | MF | 1 | 1 | | RA6V23-□□ |
| | E02 677 301 | OUTDOOR FAN MOTOR | MF | | | 1 | RA6V33-□□ |
| 3 | E02 661 351 | OUTDOOR FAN CAPACITOR | C2 | 1 | 1 | | 1.5μF /440V AC |
| | E02 664 351 | OUTDOOR FAN CAPACITOR | C2 | | | 1 | 2.0μF /440V AC |
| 4 | E02 752 353 | COMPRESSOR CAPACITOR | C1 | 1 | | | 20μF /440V AC |
| | E02 694 353 | COMPRESSOR CAPACITOR | C1 | | 1 | | 25μF /440V AC |
| | E02 696 353 | COMPRESSOR CAPACITOR | C1 | | | 1 | 30μF /440V AC |
| 5 | E02 466 375 | TERMINAL BLOCK | TB1 | 1 | 1 | 1 | 3P |
| 6 | E02 438 374 | TERMINAL BLOCK | TB2 | 1 | 1 | 1 | 2P |
| ⑦ | E02 466 340 | COMPRESSOR CONTACTOR | 52C | 1 | 1 | 1 | |
| ⑧ | E02 128 383 | SURGE ABSORBER | DSAR | 1 | 1 | 1 | |

## MUH-A07WV -E1 MUH-A09WV -E1 MUH-A12WV -E1

## 14-7. OUTDOOR UNIT STRUCTURAL PARTS



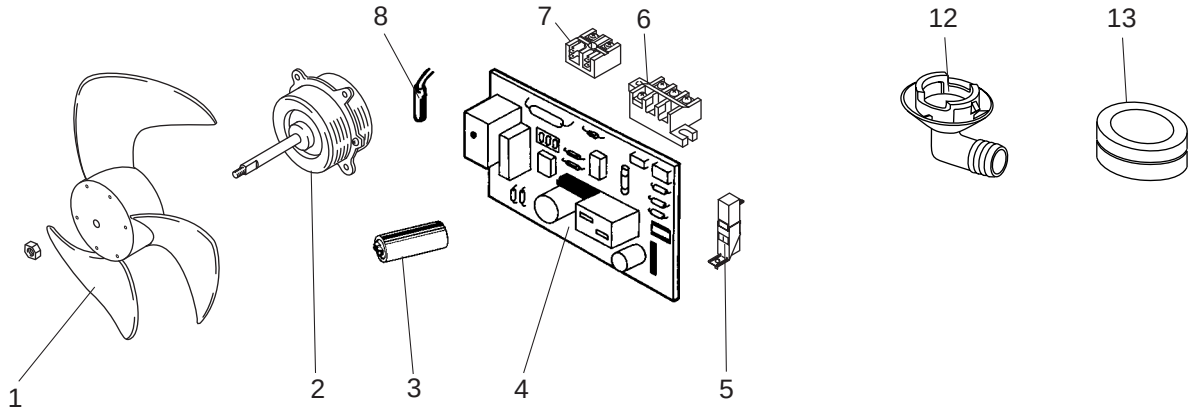

Part numbers that are circled are not shown in the illustration.

| No. | Part No. | Part name | Symbol in Wiring Diagram | Q'ty/unit | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | MUH-A07WV- E1 | MUH-A09WV- E1 | MUH-A12WV- E1 | |
| 1 | E02 679 630 | OUTDOOR HEAT EXCHANGER | | 1 | | | |
| | E02 628 630 | OUTDOOR HEAT EXCHANGER | | | 1 | 1 | |
| 2 | E02 336 232 | CABINET | | 1 | 1 | 1 | |
| 3 | E02 336 521 | GRILLE(OUT) | | 1 | 1 | 1 | |
| 4 | E02 742 900 | COMPRESSOR | MC | 1 | | | RN092VHSHT |
| | E02 753 900 | COMPRESSOR | MC | | 1 | | RN104VHSHT |
| | E02 754 900 | COMPRESSOR | MC | | | 1 | RN135VHSHT |
| 5 | E02 075 506 | COMPRESSOR RUBBER SET | | 3 | 3 | 3 | 3RUBBERS/SET |
| 6 | E02 340 290 | BASE | | 1 | 1 | 1 | |
| 7 | E02 742 661 | STOP VALVE(GAS) | | 1 | 1 | | ϕ9.52 |
| | E02 747 661 | STOP VALVE(GAS) | | | | 1 | ϕ12.7 |
| 8 | E02 745 662 | STOP VALVE(LIQUID) | | 1 | 1 | 1 | ϕ6.35 |
| 9 | E02 745 961 | 4-WAY VALVE | | 1 | 1 | | |
| | E02 735 961 | 4-WAY VALVE | | | | 1 | |
| 10 | E02 336 245 | SERVICE PANEL | | 1 | 1 | 1 | |
| 11 | E02 440 233 | BACK PANEL | | 1 | 1 | 1 | |
| 12 | E02 336 515 | MOTOR SUPPORT | | 1 | | | |
| | E02 442 515 | MOTOR SUPPORT | | | 1 | 1 | |
| 13 | E02 336 297 | TOP PANEL | | 1 | 1 | 1 | |
| ⑭ | E02 159 936 | CAPILLARY TUBE | | 2 | | | ϕ3.0xϕ1.4x800 |
| | E02 156 936 | CAPILLARY TUBE | | | 2 | 2 | ϕ3.0xϕ1.4x500 |
| | E02 752 936 | CAPILLARY TUBE | | 1 | | | ϕ3.0xϕ1.4x1050 |
| | E02 013 936 | CAPILLARY TUBE | | | 1 | | ϕ3.0xϕ1.4x1300 |
| | E02 412 936 | CAPILLARY TUBE | | | 1 | | ϕ3.0xϕ1.6x600 |
| | E02 134 937 | CAPILLARY TUBE | | | | 1 | ϕ3.0xϕ1.6x400 |
| | E02 754 936 | CAPILLARY TUBE | | | | 1 | ϕ3.0xϕ1.6x1350 |
| | E02 176 936 | CAPILLARY TUBE | | 1 | | | ϕ3.0xϕ1.6x350 |
| ⑮ | E02 154 642 | CHECK VALVE | | 1 | 1 | 1 | |

**MUH-A07WV -E1 MUH-A09WV -E1 MUH-A12WV -E1**

## 14-8. OUTDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS

## 14-9. ACCESSORY AND REMOTE CONTROLLER




## 14-8. OUTDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS

Part numbers that are circled are not shown in the illustration.

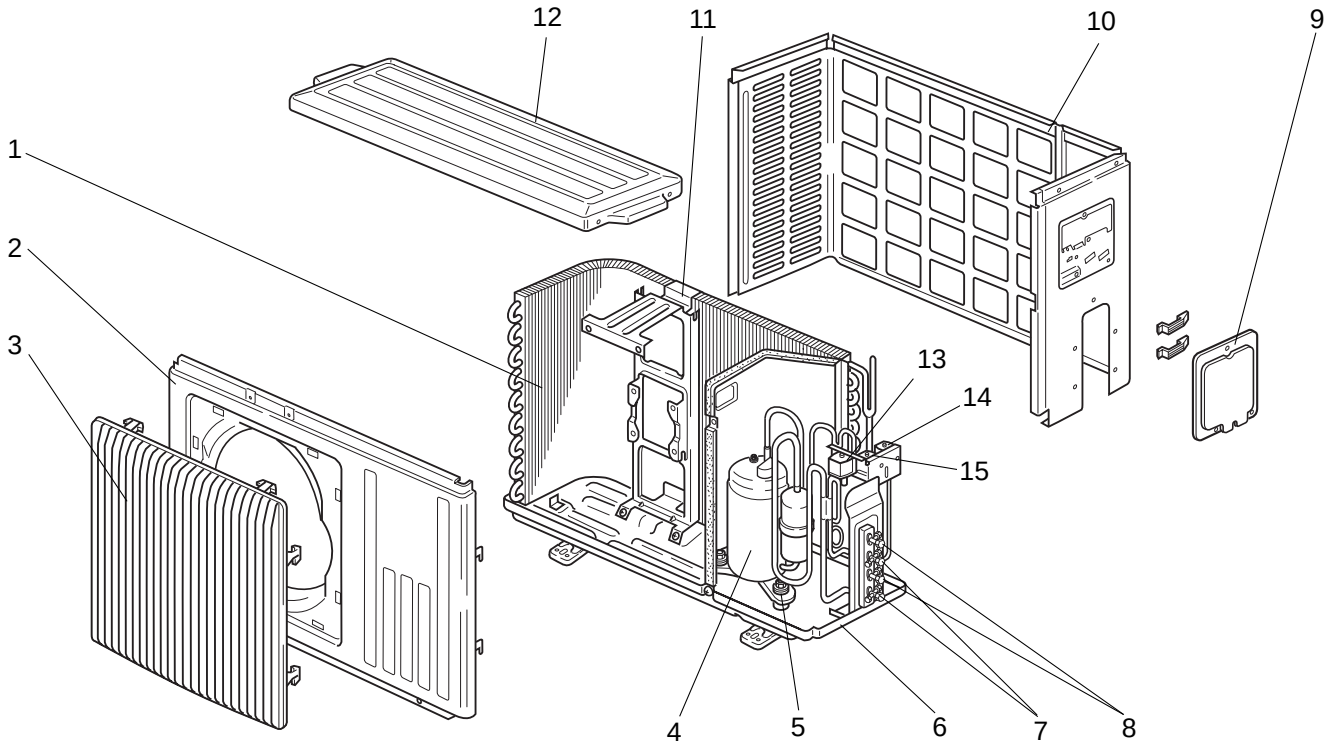
| No. | Part No. | Part name | Symbol in Wiring Diagram | Q'ty/unit | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | MUH-A07WV- E1 | MUH-A09WV- E1 | MUH-A12WV- E1 | |
| 1 | E02 665 501 | PROPELLER FAN | | 1 | 1 | 1 | |
| 2 | E02 671 301 | OUTDOOR FAN MOTOR | MF | 1 | | | RA6V23-□□ |
| | E02 672 301 | OUTDOOR FAN MOTOR | MF | | 1 | 1 | RA6V33-□□ |
| 3 | E02 752 353 | COMPRESSOR CAPACITOR | C1 | 1 | | | 20μF /440V AC |
| | E02 694 353 | COMPRESSOR CAPACITOR | C1 | | 1 | | 25μF /440V AC |
| | E02 696 353 | COMPRESSOR CAPACITOR | C1 | | | 1 | 30μF /440V AC |
| 4 | E02 752 451 | DEICER P.C. BOARD | | 1 | | | |
| | E02 754 451 | DEICER P.C. BOARD | | | 1 | 1 | |
| 5 | E02 128 383 | SURGE ABSORBER | DSAR | 1 | 1 | 1 | |
| 6 | E02 466 375 | TERMINAL BLOCK | TB1 | 1 | 1 | 1 | 3P |
| 7 | E02 697 374 | TERMINAL BLOCK | TB2 | 1 | 1 | 1 | 2P |
| 8 | E02 699 310 | DEFROST THERMISTOR | RT61 | 1 | 1 | 1 | |
| ⑨ | E02 440 490 | R. V. COIL | 21S4 | 1 | 1 | 1 | |
| ⑩ | E02 095 382 | FUSE | F61 | 1 | 1 | 1 | 250V 2A |
| ⑪ | E02 085 385 | VARISTOR | NR61 | 1 | 1 | 1 | |

## 14-9. ACCESSORY AND REMOTE CONTROLLER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | E02 444 704 | DRAIN SOCKET | | 1 | 1 | 1 | |
| 13 | E02 440 705 | DRAIN CAP | | 2 | 2 | 2 | 2PCS/SET |

## MUX-A10WV -E1

## 14-10. OUTDOOR UNIT STRUCTURAL PARTS

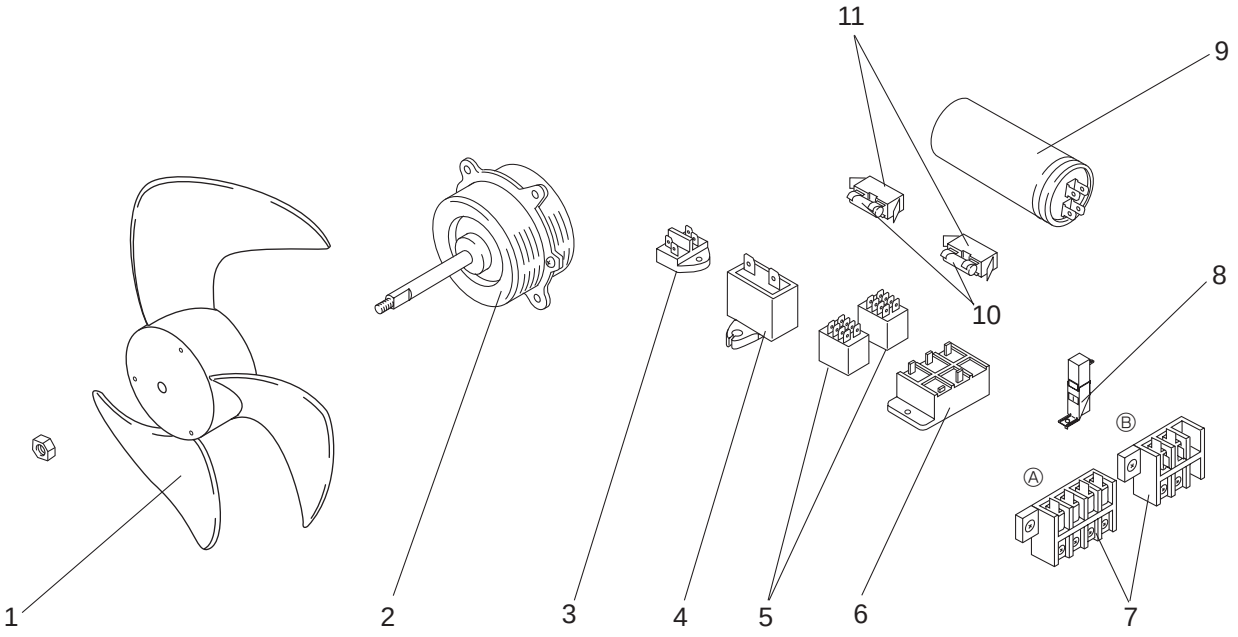



Part numbers that are circled are not shown in the illustration.

| No. | Part No. | Part name | Symbol in Wiring Diagram | Q'ty/unit | Remarks |
|---|---|---|---|---|---|
| | | | | MUX-A10WV- E1 | |
| 1 | E02 755 630 | OUTDOOR HEAT EXCHANGER | | 1 | |
| 2 | E02 336 232 | CABINET | | 1 | |
| 3 | E02 336 521 | GRILLE(OUT) | | 1 | |
| 4 | E02 742 900 | COMPRESSOR | MC | 1 | RN092VHSHT |
| 5 | E02 075 506 | COMPRESSOR RUBBER SET | | 3 | 3RUBBERS/SET |
| 6 | E02 755 290 | BASE | | 1 | |
| 7 | E02 755 661 | STOP VALVE(GAS) | | 2 | ϕ9.52 |
| 8 | E02 755 662 | STOP VALVE(LIQUID) | | 2 | ϕ6.35 |
| 9 | E02 755 245 | SERVICE PANEL | | 1 | |
| 10 | E02 755 233 | BACK PANEL | | 1 | |
| 11 | E02 336 515 | MOTOR SUPPORT | | 1 | |
| 12 | E02 336 297 | TOP PANEL | | 1 | |
| 13 | E02 750 490 | SOLENOID COIL | 21R | 1 | |
| 14 | E02 751 490 | SOLENOID COIL | 21R1 | 1 | |
| 15 | E02 755 490 | SOLENOID COIL | 21R2 | 1 | |
| ⑯ | E02 755 492 | SOLENOID VALVE(21R1,21R2) | | 2 | |
| ⑰ | E02 759 492 | SOLENOID VALVE(21R) | | 1 | |
| ⑱ | E02 024 936 | CAPILLARY TUBE | | 1 | ϕ3.0xϕ1.4x1000 |
| | E02 289 936 | CAPILLARY TUBE | | 1 | (A, B room) ϕ3.0xϕ1.6x900 |
| | E02 642 936 | CAPILLARY TUBE | | 2 | (A, B room) ϕ3.0xϕ1.4x400 |

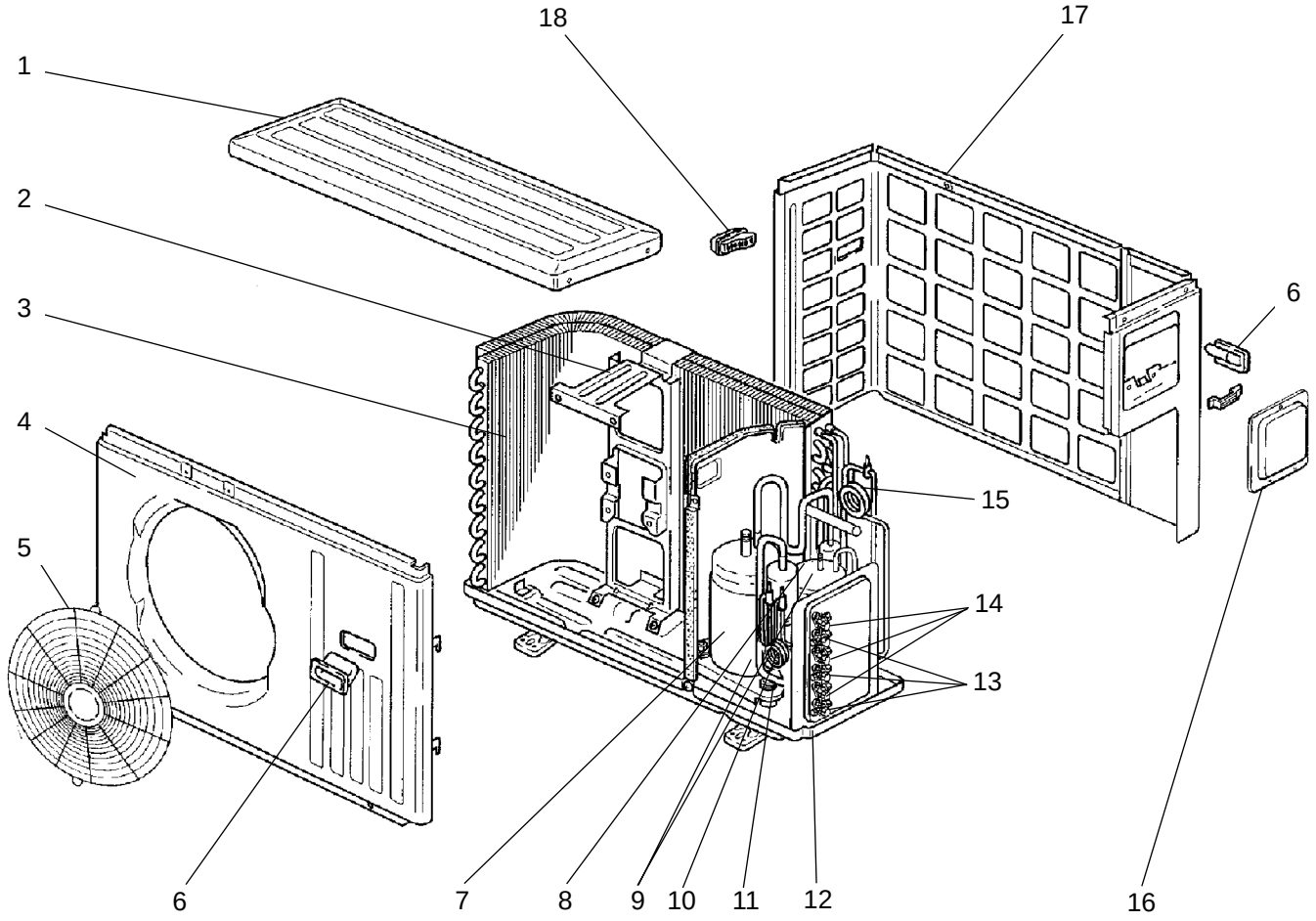
## MUX-A10WV -E1

## 14-11. OUTDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS




| No. | Part No. | Part name | Symbol in Wiring Diagram | Q'ty/unit | Remarks |
|---|---|---|---|---|---|
| | | | | MUX-A10WV- E1 | |
| 1 | E02 665 501 | PROPELLER FAN | | 1 | |
| 2 | E02 677 301 | OUTDOOR FAN MOTOR | MF | 1 | RA6V33-□□ |
| 3 | E02 056 374 | TERMINAL BLOCK | TB3 | 1 | |
| 4 | E02 664 351 | OUTDOOR FAN CAPACITOR | C2 | 1 | 2.0μF /440V AC |
| 5 | E02 755 341 | RELAY | X1,X2 | 2 | |
| 6 | E02 755 340 | COMPRESSOR CONTACTOR | 52C | 1 | |
| 7 | E02 637 374 | TERMINAL BLOCK | TB2 | 1 | 4P FIGURE Ⓐ |
| | E02 755 374 | TERMINAL BLOCK | TB1 | 1 | 3P FIGURE Ⓑ |
| 8 | E02 128 383 | SURGE ABSORBER | DSAR | 1 | |
| 9 | E02 742 353 | COMPRESSOR CAPACITOR | C1 | 1 | 20μF /450V AC |
| 10 | E02 095 382 | FUSE | F61,F62 | 2 | 250V/ 2A |
| 11 | E07 001 241 | FUSE HOLDER | | 2 | |

## MUX-A19WV -E1 MUX-A20WV -E1 MUX-A25WV -E1 MUX-A26WV -E1
## 14-12. OUTDOOR UNIT STRUCTURAL PARTS




These figures show MUX-A20WV.

## 14-12. OUTDOOR UNIT STRUCTURAL PARTS

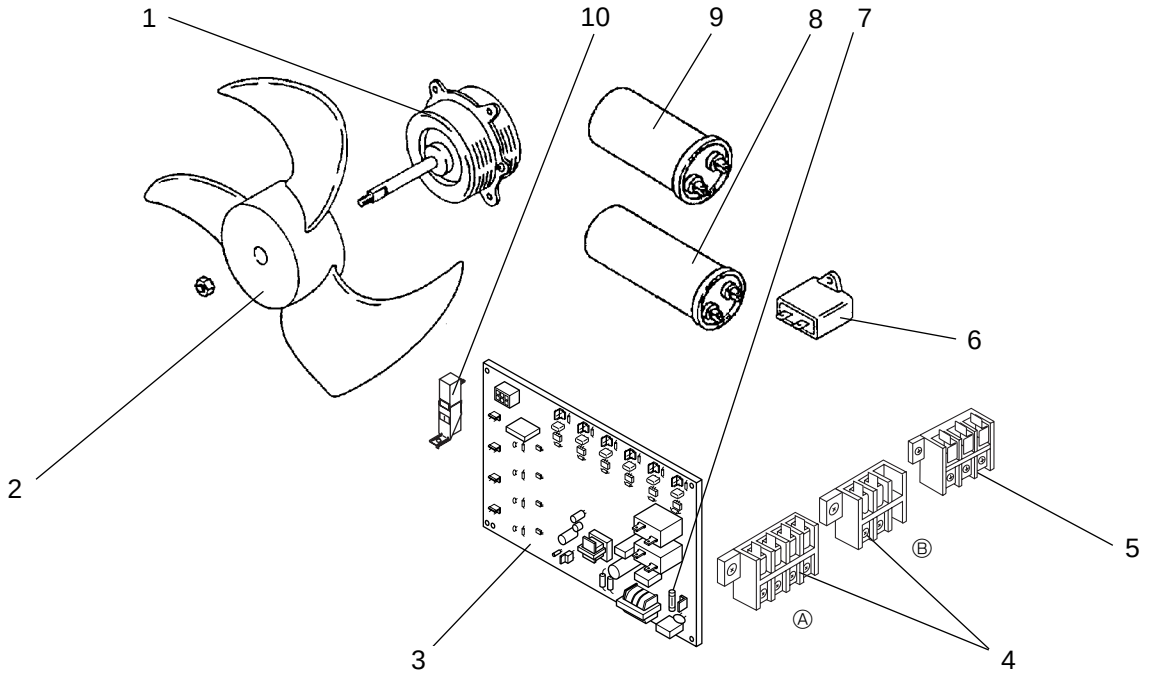
Part numbers that are circled are not shown in the illustration.

| No. | Part No. | Part Name | Symbol in Wiring Diagram | Q'ty / unit | | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | MUX-A19 WV-E1 | MUX-A20 WV-E1 | MUX-A25 WV-E1 | MUX-A26 WV-E1 | |
| 1 | E02 636 297 | TOP PANEL | | 1 | 1 | 1 | 1 | |
| 2 | E02 636 515 | MOTOR SUPPORT | | 1 | 1 | 1 | | |
| | E02 726 515 | MOTOR SUPPORT | | | | | 1 | |
| 3 | E02 756 630 | OUTDOOR HEAT EXCHANGER | | 1 | 1 | 1 | | |
| | E02 759 630 | OUTDOOR HEAT EXCHANGER | | | | | 1 | |
| 4 | E02 636 232 | CABINET | | 1 | 1 | 1 | | |
| | E02 736 232 | CABINET | | | | | 1 | |
| 5 | E02 527 521 | FAN GUARD | | 1 | 1 | 1 | 1 | |
| 6 | E07 001 009 | HANDLE | | 2 | 2 | 2 | 2 | |
| 7 | E02 742 900 | COMPRESSOR | MC1 | 1 | | | | RN092VHSHT |
| | E02 743 900 | COMPRESSOR | MC1 | | 1 | | | RN099VHSHT |
| 8 | E02 744 900 | COMPRESSOR | MC1,MC2 | 1 | | 2 | 1 | RN145VHSHT |
| 9 | E02 746 900 | COMPRESSOR | MC1,MC2 | | 1 | | 1 | RN125VHSHT |
| 10 | E02 756 936 | CAPILLARY TUBE | | 1 | | | | (B room) $\phi$3.0×$\phi$1.4×1100 |
| | E02 199 936 | CAPILLARY TUBE | | 1 | | | | (A room) $\phi$3.0×$\phi$1.4×850 |
| | E02 757 936 | CAPILLARY TUBE | | | 1 | | | (A room) $\phi$3.0×$\phi$1.4×950 |
| | E02 289 936 | CAPILLARY TUBE | | | 3 | | | (B, C room) $\phi$3.0×$\phi$1.6×900 |
| | E02 408 936 | CAPILLARY TUBE | | | | 2 | | (A, B room) $\phi$3.0×$\phi$1.4×700 |
| | E02 140 936 | CAPILLARY TUBE | | | | | 1 | (C, D room) $\phi$3.0×$\phi$1.8×800 |
| | E02 176 937 | CAPILLARY TUBE | | | | | 1 | (A, B room) $\phi$3.0×$\phi$2.0×700 |
| | E02 077 937 | CAPILLARY TUBE | | | | | 2 | (A, B room) $\phi$3.0×$\phi$1.8×700 |
| | E02 726 936 | CAPILLARY TUBE | | | | | 2 | (C, D room) $\phi$3.0×$\phi$1.6×600 |
| 11 | E02 075 506 | COMPRESSOR RUBBER SET | | 6 | 6 | 6 | 6 | 3RUBBERS/SET |
| 12 | E02 636 290 | BASE | | 1 | 1 | 1 | 1 | |
| 13 | E02 756 661 | STOP VALVE (GAS) | | 1 | | 2 | 2 | $\phi$12.7 |
| | E02 757 661 | STOP VALVE (GAS) | | 1 | 3 | | 2 | $\phi$9.52 |
| 14 | E02 756 662 | STOP VALVE (LIQ) | | 2 | 3 | 2 | 4 | $\phi$6.35 |
| 15 | E02 024 936 | CAPILLARY TUBE | | | 1 | | 2 | $\phi$3.0×$\phi$1.4×1000 |
| 16 | E02 636 245 | SERVICE PANEL | | 1 | 1 | 1 | | |
| | E02 726 245 | SERVICE PANEL | | | | | 1 | |
| 17 | E02 756 233 | BACK PANEL (OUT) | | 1 | 1 | 1 | | |
| | E02 726 233 | BACK PANEL (OUT) | | | | | 1 | |
| 18 | E02 721 009 | HANDLE | | 1 | 1 | 1 | 1 | |
| (19) | E02 637 490 | SOLENOID COIL | 21RB | | 1 | | | |
| (20) | E02 652 490 | SOLENOID COIL (B) | 21R3 | | 1 | | | |
| (21) | E02 652 491 | SOLENOID COIL (C) | 21R4 | | 1 | | | |
| (22) | E02 726 490 | SOLENOID COIL (BALANCE) | 21RA | | | | 1 | |
| (23) | E02 728 490 | SOLENOID COIL (BALANCE) | 21RB | | | | 1 | |
| (24) | E02 729 490 | SOLENOID COIL (A) | 21R1 | | | | 1 | |
| (25) | E02 730 490 | SOLENOID COIL (B) | 21R2 | | | | 1 | |
| (26) | E02 726 491 | SOLENOID COIL (C) | 21R3 | | | | 1 | |
| (27) | E02 727 491 | SOLENOID COIL (D) | 21R4 | | | | 1 | |
| (28) | E02 755 492 | SOLENOID VALVE | | | 2 | | 4 | |
| (29) | E02 759 492 | SOLENOID VALVE | | | 1 | | 2 | |

## MUX-A19WV -E1 MUX-A20WV -E1 MUX-A25WV -E1 MUX-A26WV -E1

## 14-13. OUTDOOR UNIT

### FUNCTIONAL PARTS AND ELECTRICAL PARTS



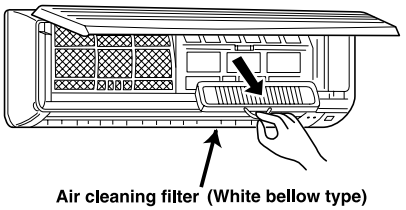

Part numbers that are circled are not shown in the illustration.

| No. | Part No. | Part Name | Symbol in Wiring Diagram | Q'ty / unit | | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | MUX-A19 WV-E1 | MUX-A20 WV-E1 | MUX-A25 WV-E1 | MUX-A26 WV-E1 | |
| 1 | E02 756 301 | OUTDOOR FAN MOTOR | MF61 | 1 | 1 | 1 | | RA6V60-□□ |
| | E02 726 301 | OUTDOOR FAN MOTOR | MF61 | | | | 1 | RA6V60-□□ |
| 2 | E02 214 501 | PROPELLER FAN | | 1 | 1 | 1 | 1 | |
| 3 | E02 756 444 | OUTDOOR CONTROL P.C. BOARD | | 1 | | | | |
| | E02 757 444 | OUTDOOR CONTROL P.C. BOARD | | | 1 | | | |
| | E02 758 444 | OUTDOOR CONTROL P.C. BOARD | | | | 1 | | |
| | E02 759 444 | OUTDOOR CONTROL P.C. BOARD | | | | | 1 | |
| 4 | E02 637 374 | TERMINAL BLOCK | TB2 | 1 | 1 | 1 | | 4P FIGURE Ⓐ |
| | | | TB2,TB3 | | | | 2 | |
| | E02 637 377 | TERMINAL BLOCK | TB3 | | 1 | | | 3P FIGURE Ⓑ |
| 5 | E02 756 374 | TERMINAL BLOCK | TB1 | 1 | 1 | 1 | 1 | 3P |
| 6 | E02 138 351 | OUTDOOR FAN CAPACITOR | C61 | 1 | 1 | | | 3.0μF/440V AC |
| | E02 064 351 | OUTDOOR FAN CAPACITOR | C61 | | | 1 | 1 | 4.0μF/440V AC |
| 7 | E02 127 382 | FUSE | F61 | 1 | 1 | 1 | 1 | 3.15A |
| 8 | E02 742 353 | COMPRESSOR CAPACITOR | C2 | 1 | | | | 20μF/450V AC |
| | E02 665 353 | COMPRESSOR CAPACITOR | C2 | | | | 1 | 25μF/450V AC |
| | | | C1,C2 | | 2 | | | |
| 9 | E02 667 353 | COMPRESSOR CAPACITOR | C1 | 1 | | | 1 | 30μF/450V AC |
| | | | C1,C2 | | | 2 | | |
| 10 | E02 128 383 | SURGE ABSORBER | DSAR | 1 | 1 | 1 | 1 | |
| ⑪ | E07 056 374 | TERMINAL BLOCK | TB4 | 1 | 1 | 1 | 1 | |
| ⑫ | E02 085 385 | SURGE ABSORBER | NR61 | 1 | 1 | 1 | 1 | |

## 14-14. AIR CLEANING FILTER

- AIR CLEANING FILTER removes fine dust of 0.01 micron from air by means of static electricity.
- Normal life of AIR CLEANING FILTER is 4 months. However, when it becomes dirty, replace it as soon as possible.
- Clogged AIR CLEANING FILTER may reduce the air conditioner capacity or cause frost on the air outlet.
- DO NOT reuse AIR CLEANING FILTER even if it is washed.
- DO NOT remove or attach AIR CLEANING FILTER during unit operation.

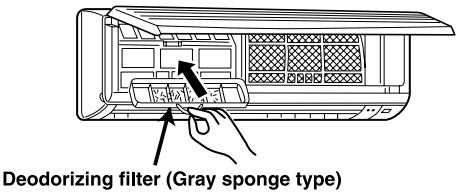
| Model | Part No. |
|---|---|
| MSC-A07WV-E1<br>MSC-A09WV-E1<br>MSC-A12WV-E1 | MAC-1300FT |




## 14-15. DEODORIZING FILTER

- DEODORIZING FILTER removes ammonia and hydrogen sulphide emitted from tobacco, and odor of pets.
- Clean DEODORIZING FILTER every two weeks. If the filter is particularly dirty, clean the filter more often.
- For cleaning, soak the filter in warm water for a while, and then wash and rinse it. Dry the filter in the shade thoroughly.
- When the filter color is still dark even after cleaning, replace the filter with a new one.
  Replace the filter at least once a year.

| Model | Part No. |
|---|---|
| MSC-A07WV-E1<br>MSC-A09WV-E1<br>MSC-A12WV-E1 | MAC-1800DF |




- DEODORIZING FILTER and AIR CLEANING FILTER can be attached on either side.

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE: MITSUBISHI DENKI BLDG.,2-2-3, MARUNOUCHI, CHIYODA-KU, TOKYO100-8310, JAPAN

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